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_INFRASTRUCTURE LOG

_DAY 25: They're in the cafeteria!! AAAGGGHH!! These useless things can't work with each other. They aren't scalable. They aren't responsive. And you can't adjust new capacity on the fly. The horror.

_So many of them, I have to eat standing up. My arches are killing me. And I got avocado on my shirt.

_DAY 26: The answer: IBM BladeCenter® with Dual-Core Intel® Xeon® Processors to boost performance and balance workloads. Its self-automating features make it easy to manage, and it has more blades per chassis for a smaller footprint. The BladeCenter even opened up its specs, so the things we buy today can work with the things we buy tomorrow.

_I can eat my turkey-avocado sandwiches in peace again.
Meow...



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CONTENTS

11.27.06

Avoiding Data Migration Delays

In the Technology section: An IT veteran offers his suggestions for approaching data migration so it won't cause embarrassing delays in your project. **Hint:** Avoid data synchronization. **Page 24**



Work/Life Balance: What's It Worth?

In the Management section: Flexible companies that help their employees have lives outside the office get ROI in the form of a better, more committed workforce, say IT execs like Mary Finley of Partners HealthCare. **Page 30**

NEWS

6 Microsoft CEO Steve Ballmer's assertion that Linux "uses our intellectual property" was sharply criticized by some Linux users and by Novell. Microsoft's new business partner.

6 E-voting glitches in Sarasota County affected the outcome of Florida's 13th district congressional race, losing candidate Christine Jennings alleges in a lawsuit.

10 Mississippi gets the top grade among the 50 U.S. states in a study that rated more than 11,000 state and local government Web sites on criteria such as usability.

12 Many companies aren't ready to meet federal guidelines for the submission of electronic documents in civil lawsuits, according to a Computerworld survey.

14 Federal guidelines for stronger authentication of online users won't be enough to truly secure Web banking systems, say IT execs at banks and credit unions.

15 OSA: Bank of America IT manager Craig Hinkley discusses the bank's effort to install about 180,000 VoIP phones in its U.S. operations by early 2009.

16 Global Dispatches: India-based Sreyam Computer Services plans to increase its workforce in China, partly to help ensure that it has enough employees to support its offshore services.

16 OSA: Barcard exec Rick Jackson explains why the software vendor decided to turn its tools business into a new subsidiary instead of selling the unit.

TECHNOLOGY

20 Future Watch: If These Walls Could Talk. For years, technopundits have predicted the arrival of "smart spaces" — environments in which sensors respond to human needs. The technologies exist, but there are barriers to adoption such as cost, questionable interoperability and reliability, and social and cultural hurdles.

26 Security Manager's Journal: Putting the Brakes on Hot Integration. After looking at the sorry state of an acquisition target's network, Mathias Thurman figures that he'll almost have to start from scratch to provide the necessary security.

MANAGEMENT



33 IT Manager: A Small-Project Playbook. Football coaches use playbooks to coordinate the actions of team members spread over a large area. A project playbook can serve the same purpose — especially when your team is geographically dispersed, says Tom L. Barnett.

34 Managers' Fears. How can you tell if you have a morale problem among your IT employees? If you have to ask, you probably do, says Paul Glen. But there are other warning signs. He also offers some suggestions for getting senior management committed for an IT initiative.

OPINIONS

10 Mark Hall worries that our schools are creating tech-savvy kids who lack the basics of critical thinking.

10 Thurston A. May thinks chief privacy officers can make a big difference for companies that market to consumers, but their doings and whereabouts are a bit mysterious.



28 Robert L. Mitchell predicts that the new user interface and file format that come with Microsoft's Office 2007 will cause some transition problems.

36 Paul Ingersoll saw learned a lesson when he taught an MBA class recently: IT's image among young business people hasn't changed — it's as bad as ever.



42 Frankly Speaking: Frank Hays says IT should be grateful for whistleblowers like the one who brought disruption to Kaiser Permanente by exposing how the CEO and CFO forced the company to adopt a questionable electronic health records system.

DEPARTMENTS/RESOURCES

All Quizzes	8
News Briefs	6
Letters	19
IT Careers	26
Company Index	40
How to Contact CW	40
Stark Tank	42

ONLINE

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Measure Your Backup Health

STORAGE: Partial backup completion, consecutive backup failures, media utilization and tape drive performance are all metrics to consider when checking the health of backups, says columnist Jim Danowski.

③ www.computerworld.com/storage

Privacy on a Global Scale

MANAGEMENT: Jay Chien sees a way to clear out the clutter and settle on seven privacy principles acceptable to most nations in the Western world.

③ www.computerworld.com/management



Avoid Virtualization Dangers

MANAGEMENT: Consolidating your servers? Two Avast! consultants offer advice on reducing the risks of putting too many applications in too few hardware baskets.

③ www.computerworld.com/hardware

Nine Steps to a Secure, Stable Windows Environment

WEEKEND: Protecting Windows systems requires a multifaceted strategy that incorporates sophisticated technologies, IT management savvy and user education. This webcast describes a nine-point plan to help you secure and stabilize Windows environments while getting used to speed on sensible password and security practices.

③ www.computerworld.com/webcasts

Why Megapixel Doesn't Matter

MOBILE/WIRELESS: Most people believe that when it comes to digital cameras, the more megapixels the better. That's not always true.

③ www.computerworld.com/mobile/wireless

ONLINE DEPARTMENTS

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AT DEADLINE

IBM, Cray Sign DARPA Contracts

IBM and Cray Inc. have won U.S. government contracts to design next-generation supercomputers. The Defense Advanced Research Projects Agency awarded a \$250 million contract to Cray and a \$244 million one to IBM. Each company is expected to have a prototype ready by 2010. Sun Microsystems Inc., which had won earlier rounds of bidding, lost out on the latest round.

U.S. Gives Nod to Alcatel-Lucent Deal

The Committee on Foreign Investment in the U.S., an emergency panel led by the secretary of the Treasury, has given its approval to the planned merger of Alcatel SA and Lucent Technologies Inc. President George W. Bush accepted the committee's recommendation that he not suspend or prohibit the planned merger on security grounds. The companies announced their merger deal in April and plan to create a giant communications equipment maker based in Paris.

Alcatel Buys Online Service Provider

Alcatel Technologies Inc. has agreed to buy Nine Systems Corp., a multimedia management services provider, for about \$180 million in cash and stock. Alcatel said it will retain Nine Systems' facilities in Denver and San Diego and keep most of its 57 employees. Alcatel said the acquisition will help it expand its tool set for online content.

Avaya Purchases Traverse for \$15M

Avaya Inc. last week acquired Traverse Networks, a privately held company, for \$15 million. Traverse makes server and client software designed to let enterprise workers easily retrieve and manage voice mail on a broad range of mobile devices. The technology will be added to the new Avaya Unified Communications Edition software products.

Ballmer Blasted for Linux Stance

Users, Novell criticize Microsoft CEO's claims about intellectual property

BY BRIAN LAM

MICROSOFT CORP. CEO Steve Ballmer's declaration that Linux "uses our intellectual property" fanned a firestorm of controversy last week, with Novell Inc. objecting to Ballmer's characterization of its recent patent deal with Microsoft and some users accusing him of trying to sow fears about using Linux.

At a SQL Server user group conference in Seattle on Nov. 16, Ballmer asserted that every Linux user "basically has an undisclosed balance sheet liability" related to the use of Microsoft's intellectual property. He also said that as part of a joint development and patent licensing agreement

announced earlier this month, Novell had paid Microsoft for the right to tell users of its SUSE Linux software that they are "appropriately covered."

But Russ Donnan, CIO at Kroll Inc.'s Kroll Factual Data subsidiary in Loveland, Colo., said via e-mail last week that he thinks Ballmer was "posturing for mind share to enterprise executives, knowing it will have little to no impact on IT executives."

'Liability' Dismissed

Kroll Factual Data, which provides credit reports and other business information services, currently uses both Windows and Red Hat Linux on servers in its data centers. Donnan plans to switch the Red Hat



servers to Windows for ease of management, but he said the shift has nothing to do with concerns about legal issues.

"I do not believe that my company has an 'undisclosed balance sheet liability,'" Donnan wrote, adding that "the threat of such a 'liability' would not in any way influence" his future buying deci-

sions on operating systems. Barry Strassick, CEO of financial services firm Citireet LLC in North Quincy, Mass., was even more emphatic in his criticism of Ballmer. Strassick said via e-mail that he viewed Ballmer's comments as an attempt to create fear, uncertainty and doubt among Linux users. "FUD may have worked for IBM in the 1970s but not today," Strassick wrote.

He added that he had been thinking of moving some applications from Red Hat to Windows, "but this has now totally alienated me from Microsoft."

Novell CEO Roo Hovsepian also took issue with Ballmer's comments in an open letter posted on his company's Web site. "Our agreement with Microsoft is in no way an acknowledgment that Linux infringes upon any Microsoft intellectual property," Hovsepian wrote. "We strongly object to the usage of our agreement to suggest that members of the Linux community owe Microsoft any remuneration."

Microsoft released a statement saying it "respects Novell's point of view on the patent issue, even while we respectfully take a different view." Microsoft acknowledged that Novell is "absolutely right" in saying it didn't admit to any Linux patent problems as part of their agreement.

The companies later held a joint conference call with reporters to say that they remain committed to their alliance, despite the flare-up over Ballmer's comments. ▀

Lawsuit Blames E-voting Glitches For Florida Election Undercount

BY MARK L. BOWMAN

The losing candidate in a disputed Florida congressional election has filed a lawsuit contending that glitches in electronic voting machines in Sarasota County were the main reason for most of the 8,000 so-called undervotes there in the Nov. 7 election.

Christine Jennings last week filed suit in Leon County's Second Circuit Court in Tallahassee contending that the glitches in machines used in Sarasota County affected the outcome of her race because 8,000 voters taking part in the election apparently did not cast a ballot in that contest. The complaint asked that a county judge order a new election.

Jennings, a Democrat, lost the race to represent Florida's 13th District in the U.S. House of Representatives by 369 votes to Republican Vern Buchanan. Two recounts upheld that tally. The election was officially certified on Nov. 20

by the Florida Elections Canvassing Commission.

Undervotes, or ballots that have been cast but are missing votes for individual races, represented 15% of the votes cast in Sarasota. That rate was abnormally high, Jennings maintains in her lawsuit. The rates in other counties were far lower, according to the suit.

Jennings contends in the lawsuit that the overwhelming majority of undervotes in Sarasota County were not conscious decisions by citizens not to cast a vote in the congressional race. Rather, she argues, they were caused by a problem with the touch-screen system.

The complaint names as plaintiffs Florida Secretary of State Sue Cobb, the Elections Canvassing Commission, Buchanan and other county and state officials.

"The vote totals in the certification are wrong because they do not include thousands of legal votes that were cast

in Sarasota County but not counted due to the pervasive malfunctioning of electronic voting machines," stated the complaint.

The suit urged the judge to order a rapid examination of the audit and ballot image logs in the machines, have the Elections Canvassing Commission void the current results, certify Buchanan as winner, and either declare Jennings the victor or hold a special election.

Voter Action, a nonprofit election watchdog organization in Berkeley, Calif., and the American Civil Liberties Union of Florida last week announced plans to jointly file another lawsuit calling on the same court to order an investigation of the performance of the e-voting machines and a new election.

Election Systems & Software Inc. in Omaha, the maker of Sarasota County's e-voting machines, said it had not seen the lawsuit and declined to comment. ▀

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BRIEFS

Alcatel Files Suits Against Microsoft

Alcatel SA has accused Microsoft Corp. of infringing seven U.S. patents it holds. The patents describe how to implement fast-forward and rewound functions in digital video streams. The networking equipment manufacturer filed two lawsuits against Microsoft in a Texas court. Alcatel is seeking an end to the infringement, trouble damages, and payment of interest charges and legal costs.

Bell Agrees to Resell JBoss Subscriptions

Bell SA has agreed to resell subscriptions to Red Hat Inc.'s open-source JBoss application server. The agreement between Bell and Red Hat also calls for the French systems and services provider to offer first- and second-tier support for JBoss. Bell also agreed to join the community of developers who contribute to JBoss and to become a JBoss systems integrator partner.

Check Point to Buy Pointcast for \$500M

Check Point Software Technologies Ltd. has agreed to acquire Pointcast Media Technologies AG for \$500 million in cash. Check Point said the move is part of an effort to extend its security offerings to laptops and other remote-access devices. Pointcast develops encryption software for securing data stored on laptops, PCs, smart phones and handhelds. The deal is expected to close early next year.

IBM Adds Identity Management Tool

IBM has added a single-sign-on tool to its Tivoli software line. IBM said the new software is a simplified version of its existing federated identity management software. The tool will allow small and midsize businesses to federate their systems with those of their larger business partners, lowering the firm's share of the administration to their partners, IBM said.

ON THE MARK



Free Systems Management . . .

... software adds spice - and advertising - to your admin's tool chest. Scot Abel, CEO of Spiceworks Inc., says that IT, particularly at small and midsize companies, gets the shaft when it comes to systems management software, which he contends is expensive to buy

and overly complex to install and manage. In contrast, Abel claims that his Spiceworks IT Desktop software offers "dramatically

simplified" management capabilities. And it's free - as long as you don't mind letting a portion of your screen's real estate be used to show context-sensitive ads. For example, if you're reviewing a printer's status, you might see an ad touting ink-jet supplies. Abel says IT Desktop gives you reports about what software is on your network, the available disk capacity on your storage systems, printer ink levels and much more. In early 2007, look for Spiceworks to add support for logins from multiple accounts and for attachments that contain info about the trouble tickets IT Desktop generates.

Gather your dispersed development team . . .

... in a single (virtual) space. Such is the vision of Darren Levy, founder of GatherSpace.com, an online service offered by Levy Consulting Inc. According to Levy, even small and midsize companies like his are using outsourced or offshore developers on software projects. But many can't afford spendy project management tools to keep track of whether a new application's features meet the original specifications. Levy says GatherSpace.com's service is based on the so-called use-case approach to application

requirements management, enabling users to prioritize software features, check their status and see how well they match

HOT TECHNOLOGY TRENDS, NEW PRODUCT NEWS AND INDUSTRY BUZZ BY MARK HALL

requirements documents.

"It helps build software by consensus," he claims. Next month, GatherSpace.com plans to add test management tools for quality assurance engineers, and a licensed, on-premises version of the software is due next year Levy says. The online service costs \$75 per month for a 20-member project team.

'Tis the season to fret about . . .

... the online experiences of your Web shoppers. Although it may be a bit late to improve your Web site for this year's holiday season, Keynote Systems Inc. can help you get a jump on the 2007 shopping action with a testing service called Transaction

Perspective High Frequency, which it plans to launch in late December. Using Internet Explorer to automatically bang on your site up to four times per hour from as many as 104 locations, Keynote will let you see how shoppers interact with all those Web 2.0 features you've been adding.

"You can measure whatever an IE browser can touch," says Abelardo Gonzalez, a Keynote project manager. Among other capabilities, you'll be able to determine how fast pages load and locate performance bottlenecks. Pricing starts at \$1,395 per month for testing from 10 locations.

Inventory what's on your network, then . . .

... manage access to it. "IT has no idea what's connected to their network," contends Lior Tal, CEO of Insightix Ltd. in Ra'anana, Israel. Tal says that's especially true if you're using management frameworks like Tivoli and Unicenter. He claims that they miss a

lot, including mobile devices that aren't connected to the network during the inventory process, outsiders who attach to a LAN with static IP addresses and PCs that have active firewalls. You can't get a good idea about what policies to apply for network access until you have a complete inventory. Tal says. His company's Insightix Network Access Control Server is a card-and-software combo that runs on your network's switches and sniffs each packet going by to locate its device of origin. Once you've set policies on access rights, devices found to be out of compliance are placed in quarantine and only

permitted to communicate with a remediation server, according to Tal. Version 3.0, which ships this week, provides graphical views of a network's logical connections and lets you sort your systems inventory in a variety of ways, such as Windows PCs with live firewalls. Pricing starts at \$5,000.

Highlight info on the internet . . .

... via an online service. A free, ad-based service offered by i-Lighter Inc. lets end users highlight content on a Web page and save it to a folder as a separate file. According to CEO Marcy Hoffman, you can annotate highlighted content and designate folders for public viewing or keep them private. The service initially works on IE; next week, i-Lighter will add support for the Firefox browser. Hoffman says the company also is working on a licensed enterprise version and on making i-Lighter work with Word and PDF documents. ■

With competition heating up, how will
Air China open new doors abroad?



Dynamic Networking. Take Flight.

Competition can be fierce. With competitors giving chase in the domestic market, Air China was fighting to stay on top. But it couldn't hamper its ability to serve more destinations abroad. The plan? Retool its IT systems to streamline operations, accommodate expansion, and provide more of the amenities that travelers expect. The solution: **Dynamic Networking from the new AT&T.**

To address these challenges, the new AT&T created a reliable, scalable solution that's handling millions of transactions per day. All while delivering real-time access to data. Air China is seeing immediate returns by optimizing its reservations, route scheduling and frequent flyer programs. And the renewed vigor is keeping this leader on top.

To learn more about how Air China and other businesses have found success with Dynamic Networking, visit att.com/profiles.



The World According To Stephen

I am the shepherd of resources.

The ringleader of processes.

The conductor of an inventory

in transit across three continents.

the world

Dynamic Networking from the new AT&T

11000 11000 11000



Mich. E-government Site Gets Top Marks

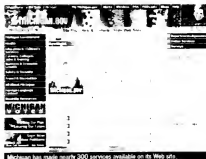
study grades state, local government sites on usability, other criteria

BY MITCH BETTS

A Michigan e-government Web site has earned the highest overall grade in a study by the National Performance Review (NPR) on usability, content and other criteria. The study, which was conducted by the NPR, ranked 100 state and local government Web sites. Michigan's site, www.michigan.gov, was the only one to receive a grade of "A" in all categories.

The study, which was conducted by the NPR, ranked 100 state and local government Web sites. Michigan's site, www.michigan.gov, was the only one to receive a grade of "A" in all categories. The study was conducted by the NPR, which is a non-partisan organization that was created by President Clinton in 1997. The study was the first of its kind, and it was designed to help state and local governments improve their Web sites.

Michigan's site, www.michigan.gov, was the only one to receive a grade of "A" in all categories.



Michigan has made nearly 300 services available on its Web site.

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Focus on Services

According to Mr. Arthur, one problem with many government Web sites is that they are organized by department, whereas most users want to accomplish a task. "I like paying a water bill without necessarily knowing which department is involved," he said. "The best Web sites offered on the home page a list of all government services regardless of department," he said.

Another problem uncovered by the NPR study is outdated information on official government Web sites. "Either maintain its currency and accuracy, or shut it down," Mr. Arthur said. "Bad information is worse than no information."

A key success example in the study looked at bonded health cases in which small governments apparently paid service providers to set up Web sites for them but then let their contracts expire.

Best Government Sites

The NPRC gave the following state and local government Web sites top grades for overall usability and government capabilities:

Top State Web Sites

Grade	State	URL
A+	Michigan	www.michigan.gov
A-	Idaho	www.accessidaho.org
A-	Indiana	www.in.gov
A-	Nebraska	www.nebraska.gov
A-	Utah	www.utah.gov

Top County Web Sites

Grade	County	URL
A+	Montgomery County, Md.	www.co.mont.md.us
A-	Alameda County, Calif.	www.co.alameda.ca.us
A-	Los Angeles County, Calif.	http://lacountyinfo.org
A-	Sacramento County, Calif.	www.sacounty.net
A-	Broward County, Fla.	www.co.broward.fl.us
A-	Seminole County, Fla.	www.seminolecountyfla.gov

Population of 50,001-250,000:

Grade	County	URL
A+	York County, Va.	www.yorkcounty.gov
A-	Leon County, Fla.	www.co.leon.fl.us
A-	Maricopa County, Ariz.	www.maricopa.gov
A-	St. Johns County, Fla.	www.co.stjohns.fl.us
A-	Columbia County, Ga.	www.columbiacountyga.gov
A-	Buncombe County, N.C.	www.buncombecounty.org
A-	Deschutes County, Ore.	www.deschutes.org
A-	London County, Va.	www.londonva.gov

Top City Web Sites

Grade	City	URL
A+	Fresno, Calif.	www.ci.fresno.ca.us
A-	Tempe, Fla.	www.ci.tempe.fl.us
A-	New Orleans	www.cityofno.org
A-	Washington	www.dc.gov
A-	Houston	www.houstontx.gov
A-	Virginia Beach, Va.	www.vbgov.com
A-	Seattle	www.seattle.gov

Population of 50,001-250,000:

Grade	State	URL
A+	Huntsville, Ala.	www.ci.huntsville.al.us
A-	Chandler, Ariz.	www.chandleraz.gov
A-	Augusta, Ga.	www.augusta.gov
A-	Bolton, Ont.	www.boltonontario.gov

METHOODOLOGY Tamarit managers visited 1,207 city, county and state government Web sites and awarded them points for 25 features in seven categories: usability, site navigation, accessibility, content, design, security and privacy. The study was conducted by the NPR, which is a non-partisan organization that was created by President Clinton in 1997. The study was the first of its kind, and it was designed to help state and local governments improve their Web sites.

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IT Unready for New Rules On Electronic Evidence

As Dec. 1 deadline looms, survey finds some ignorant of new requirements

BY SHARON FISHER

MANY COMPANIES don't appear to be prepared for new federal rules slated to take effect Dec. 1 for electronic discovery of documents in civil cases, according to a survey conducted this month by Computerworld.

About 32% of 170 IT managers and staffers surveyed said they aren't prepared to meet the requirements of the federal edict. If so, said they are somewhat prepared, while 42% said they don't know the status of their companies' preparation.

The new rules specify requirements for submitting electronic documents — likely including e-mail and perhaps instant messaging logs, depending on future case law — as evidence in civil litigation

The rules were recommended in September 2005 by the Judicial Conference of the U.S. Supreme Court's Committee on Rules of Practice and Procedure.

The rules, described in a 300-plus-page document compiled by the conference, require that companies involved in civil litigation meet within 30 days of the filing to decide how to handle electronic data. The firms must agree on what records are shared and on which electronic format.

Past decisions by courts indicate that penalties for failure to comply could be harsh — and costly. Morgan Stanley was fined \$1.5 billion in May 2005 when a judge ruled that it had failed to preserve electronic information.

James Brady, e-mail admin-

istrator in enterprise information services at Enduris-Sinai Health System in Los Angeles, said at Computerworld's Storage Networking World conference in Orlando earlier this month that the rules are a "looming new problem."

Brady said he spent six months lobbying Cedar-Sinai management to prepare to comply with the rules. The company is spending \$5,000 per month copying tapes to make sure data is available.

Don Greva, manager of accounting and information systems at Texas Aromatics LP, a petrochemical company in Houston, said he wasn't aware of the impending rules changes before receiving the Computerworld survey.

Green plans to work with the company's legal counsel to ensure that the mandates are met.

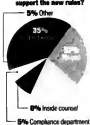
Jack McLaine, assistant vice president of MIS at Leesport

Ready or Not

How prepared is your organization for the new federal e-discovery regulations?



Who is in charge of implementing the process required to support the new rules?



Base: 170 IT professionals

SOURCE: COMPUTERWORLD'S 2006 SURVEY, NOVEMBER 2006

Financial Corp., said the Wyoming, Pa.-based financial services firm began taking steps to meet the requirements a year and a half ago — before work on the new rules was officially completed.

"We knew it was coming," he said. "We couldn't say, 'We'll do it next year.' We said, 'We've got to do this now.'"

Leesport spent \$50,000 to set up an e-mail archiving

system, including document scanning, based on Permabit Inc.'s Dynamic Information Services document management product, McLaine said. John Bace, an analyst at Gartner Inc., said that organizations should quickly take steps to develop document retention policies and content management procedures to help protect the organization in case documents are lost. ■

Continued from page 10

E-gov't

E-government generated a lot of excitement in the late 1990s, but the development of online government services has stalled in many locations, said Rob Atkinson, president of the Information Technology

and Innovation Foundation in Washington.

"It's surprising how poor many government Web sites are to this day," he said. "They're poorly organized, and most e-government applications are still very agency-centric, rather than focusing on what would make sense to the citizens."

Darrell West, a professor of political science at Brown University, said that the movement toward e-government has lost some momentum because of skinny budgets. "In the long run," West said, "I'm optimistic about the future of e-government, but the revolution is going to take longer than people thought a decade ago."

Realizing e-government will require more online interactivity, according to both Atkinson and West, that could mean adding wizards that walk Web site users

through complicated processes, or new features that allow citizens to participate in their government's decision-making processes.

In Michigan, the IT department is working on mobile applications for tasks that people want to accomplish on

27,760

Number of local governments that have an official Web site

short notice, Hogan said. For example, one future application will let people who book a charter fishing tour use handheld devices to buy 24-hour fishing licenses. "These guys show up at the dock at 4:00 in the morning, and the skipper finds

out they don't have their fishing license," he said.

Michigan also ranked No. 1 in the 2006 Digital Status Survey, which was conducted in June by the Center for Digital Government in Folger, Calif. "We try to stay on the cutting edge," Hogan explained, "to make sure we're doing it first and doing it better." ■

DESIGN RECOMMENDATIONS

The Web site of state and local governments should do the following:

- Indicate on the home page that they are official government sites.
- Include a direct online payments link on the home page.
- Explain how citizens can do business with government agencies or departments.

BASED ON NATIONAL POLICY RECOMMENDATION COUNCIL, NOVEMBER 2006

Lack of Standard URL Format Creates Confusion

THE STUDY of state and local government Web sites by the National Policy Research Council found a complete lack of standardization in both the URL formats and the top-level domains the sites use.

For example, the NPRC said that California's Alameda, Los Angeles and Sacramento counties use the following URLs, respectively: www.alameda.ca.us, www.lacounty.info and www.sacounty.net.

The problem is that the different

naming conventions can sow confusion about whether a particular Web site is an official government site or an unofficial one set up by an organization such as a chamber of commerce or a visitors' bureau, the NPRC said in its report.

The most common top-level domain among state and local government sites are .org, .com and .us, but some use .net, .gov or .info, according to the NPRC.

The organization also found 15

local governments that use the country codes of foreign nations.

For example, the Web site for the town of Hempstead, N.Y., which can be accessed at <http://holu.us>, uses the country code of Liechtenstein in an attempt to signal that the town is located on Long Island. Other country codes used by local governments, the NPRC said, include those of Montserrat (.ms), Samoa (.ws) and Tonga (.to).

— MITCH BETTS

IT Unready for New Rules On Electronic Evidence

As Dec. 1 deadline looms, survey finds some ignorant of new requirements

BY BRADLEY FISHER

MANY COMPANIES don't appear to be prepared for new federal rules slated to take effect Dec. 1 for electronic discovery of documents in civil cases, according to a survey conducted this month by Computerworld.

About 32% of 170 IT managers and staffers surveyed said they aren't prepared to meet the requirements of the federal edict, 19% said they are somewhat prepared, while 42% said they don't know the status of their companies' preparation.

The new rules specify requirements for submitting electronic documents — likely including e-mail and perhaps instant messaging logs, depending on future case law — as evidence in civil litigation.

The rules were recommended in September 2005 by the Judicial Conference of the U.S. Supreme Court's Committee on Rules of Practice and Procedure.

The rules, described in a 300-plus-page document compiled by the conference, require that companies involved in civil litigation meet within 30 days of the filing to decide how to handle electronic data. The firms must agree on what records are shared and on which electronic format.

Past decisions by courts indicate that penalties for failure to comply could be harsh — and costly. Morgan Stanley was fined \$1.5 billion in May 2005 when a judge ruled that it had failed to preserve electronic information.

James Brady, e-mail admin-

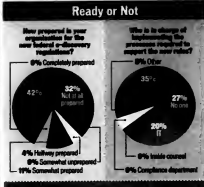
istrator in enterprise information services at Cedars-Sinai Health System in Los Angeles, said at Computerworld's Storage Networking World conference in Orlando earlier this month that the rules are a "looming new problem."

Brady said he spent six months lobbying Cedars-Sinai management to prepare to comply with the rules. The company is spending \$5,000 per month copying tapes to make sure data is available.

Don Green, manager of accounting and information systems at Texas Aromatics LP, a petrochemical company in Houston, said he wasn't aware of the impending rules changes before receiving the Computerworld survey.

Green plans to work with the company's legal counsel to ensure that the mandates are met.

Jack McLaine, assistant vice president of MIS at Leesport



Financial Corp., said the Wyoming, Pa.-based financial services firm began taking steps to meet the requirements a year and a half ago — before work on the new rules was officially completed.

"We knew it was coming," he said. "We couldn't say, 'We'll do it next year.' We said, 'We've got to do this now.'"

Leesport spent \$60,000 to set up an e-mail archiving

system, including document scanning, based on Permabit Inc.'s Dynamic Information Services document management product, McLaine said. John Bacc, an analyst at Gartner Inc., said that organizations should quickly take steps to develop document retention policies and content management procedures to help protect the organization in case documents are lost. ■

Continued from page 10

E-gov't

E-government generated a lot of excitement in the late 1990s, but the development of online government services has stalled in many locations, said Rob Atkinson, president of the Information Technology

DESIGN RECOMMENDATIONS

and Innovation Foundation in Washington.

"It's surprising how poor many government Web sites are to this day," he said. "They're poorly organized, and most e-government applications are still very agency-centric, rather than focusing on what would make sense to the citizen."

Darrell West, a professor of political science at Brown University, said that the movement toward e-government has lost some momentum because of skimpy budgets.

"In the long run," West said, "I'm optimistic about the future of e-government, but the revolution is going to take longer than people thought a decade ago."

Revitalizing e-government will require more online interactivity, according to both Atkinson and West. That could mean adding wizards that walk Web site users

through complicated processes, or new features that allow citizens to participate in their governments' decision-making processes.

In Michigan, the IT department is working on mobile applications for tasks that people want to accomplish on

short notice. Hogan said. For example, one future application will let people who book charter fishing tours use handheld devices to buy 24-hour fishing licenses. "These guys show up at the docks at 4:00 in the morning, and the skipper finds

out they don't have their fishing license," he said.

Michigan also ranked No. 1 in the 2006 Digital States Survey, which was conducted in June by the Center for Digital Government in Fresno, Calif. "We try to stay on the cutting edge," Hogan explained, "to make sure we're doing it first and doing it better." ■



The Highly Reliable Times

VOLUME 1 - ISSUE 1

 Windows Server 2003

LONDON STOCK EXCHANGE CHOOSES WINDOWS OVER LINUX FOR RELIABILITY

*Reliability Is Key in the
"World's Capital Market"*

By MICHAEL BETTENDORF

LONDON, Oct. 2006 — When an IT system must process 15 million real-time transactions per day, with peaks of 1.5 million per second, and one second of downtime costs one second of operations lost. That's the pressure the London Stock Exchange faced when building its latest, the Exchange's real-time stock-ticker information delivery system.

The solution had to have rock-solid reliability, nothing less. "Reliability is one of the top attributes of the Exchange in its technology systems. These systems have to work every day, 24/7, to make sure the markets are open," said CIO David Lester, who evaluated both Linux and Microsoft® Windows Server® 2003 for the Exchange's core tech-

nology systems. "We looked at a number of different platforms for our Technology Roadmap, and we lined up our business requirements with the capabilities of those platforms, and Windows Server was the clear choice."

In Lester's view, long-term reliability is a function of a solid relationship. "We wanted a deep partnership with an organization that could deliver the kind of mission-critical technology that we needed, and we felt Microsoft delivered just that."

For the full London Stock Exchange case study, plus other case studies and independent research findings on the reliability of Windows Server versus Linux, visit us at microsoft.com/getthefacts


THE HEADQUARTERS OF THE LONDON STOCK EXCHANGE, LOCATED IN LONDON, ENGLAND.

BREAKING NEWS:

London Stock Exchange Records Reliability

David Lester, Chief Information Officer of the London Stock Exchange, shares Windows Server's role in ensuring

Federal Rules May Not Fully Secure Online Banking Sites

IT execs say banks and credit unions need more than strong authentication

BY JAMES VAN VLIET

FINANCIAL institutions that truly want to bolster their online security need to look beyond the federal guidelines on end-user authentication that go into effect Jan. 1. IT managers and analysts said last week.

The guidelines, issued last year by the Federal Financial Institutions Examination Council (FFIEC), call on banks and credit unions to adopt so-called strong authentication measures for protecting online customers against identity theft and other types of fraud.

The FFIEC's requirements have gotten the financial services industry to turn its attention to the issue of online security, said Gartner Inc. analyst Avishai Litan.

No Silver Bullet

But strong authentication "certainly isn't a silver bullet," said Melissa Auchter, CIO at Parda Federal Credit Union in Rochester, Mich. "It just protects one doorway. It's one more measure in a comprehensive approach to protecting the assets of our members."

Early this month, Parda finished rolling out a multifactor authentication tool from BioPassword Inc. that uses a combination of standard log-in credentials and information about the keyboard typing rhythms of users to control access to their accounts. But Auchter said Parda has also invested in a layered set of defenses, including transaction-level fraud monitoring.

For the past year, the University of Wisconsin Credit Union in Madison has been using software from Corillian Corp. to authenticate its online users during log-in and, to a limited extent, in the transaction

stage. Eric Bangert, the credit union's director of Internet services, said the software lets the financial institution profile users' systems and online behavior and then challenge them to provide extra proof of their identity if any changes from the norm are detected.

The credit union also plans to add a stronger "out-of-band" process, in which automated phone calls will be made to account holders if there's still reason to doubt their identity, Bangert said.

"[Strong authentication] certainly isn't a silver bullet. It just protects one doorway."

MELISSA AUCHTER, CIO,
PARDA FEDERAL CREDIT UNION

That is necessary because phishers have already begun to find ways to compromise most challenge-and-response forms of strong authentication, he noted. "Eventually," Bangert said, "I would like to eliminate the challenge questions completely because they

don't add much to security."

Under the FFIEC's guidelines, banks and credit unions are supposed to augment single-factor authentication processes — typically based on a username and password — with a second form of authentication by year's end. The guidelines aren't a formal mandate, but the FFIEC plans to start auditing financial institutions for compliance with them next year.

Don Phan, an analyst at Javelin Strategy & Research in Pleasanton, Calif., said online fraudsters have already found a way to break the one-time passwords that some banks

have begun using as a second form of authentication.

Because banks are being asked to focus largely on front-end access controls, "we don't consider the FFIEC guidance alone to be strong enough to make the consumer safer," Phan said. "Financial institutions must net their goals higher." He recommended the use of risk assessment and alerting measures at log-in and for real-time monitoring of an account holder's activities online.

Chad Graves, vice president of IT at Ent Federal Credit Union in Colorado Springs, said the FFIEC's guidelines should be adequate for dealing with current threats such as phishing. But he said that Ent Federal may have to add transaction-level controls if it decides to support electronic clearinghouse or wire-transfer transactions. ■

Continued from page 1

BI Tools

officials declined to provide more details on the suspected fraud. But they did say that the county has saved millions of dollars since 2003, when it started using BI tools to analyze claims data.

Several counties in New York are turning to BI tools to help cut through millions of claims to identify potential cases of fraud and misuse, said Stephen Acquaro, executive director of the Albany-based New York State Association of Counties.

Before putting the tools in place, counties had no easy way to estimate what their weekly Medicaid bill from the state would be, according to officials in several counties.

Albany County last month began using Salient Performance Management (formerly called Muni-Minder) software from Salient Corp. to analyze data stored in the state's Medicaid data warehouse to detect patterns that might indicate abuse, said Beth Berlin, commissioner of the Albany County Department of Social Services.

The Salient software is designed to provide access to transactional data and other information for analysis, said Gory Amisano, president and co-founder of Salient. The results are displayed graphically to help users detect questionable activity, he said.

Albany County has appropriated \$57 million to pay its Medicaid costs in 2007, Berlin said. Because that amount is so high, "we are interested in looking at the claims to determine if there is any pattern... of activity that is outside of the norm that would indicate that there might be a need for a more intimate review of what is going on in that provider's organization," she said.

Potential Returns

Oneonta County is using the same Salient software to flush out Medicaid fraud, Morgan said. The county paid \$200,000 for it and will pay \$30,000 annually for maintenance, he said.

The county hopes that fraud

investigations, like the ongoing analysis of prescription data, will result in some recipients being placed in less expensive Medicaid programs that limit their treatment to a single doctor and pharmacy.

Nassau County has been using statistical analysis and data mining tools from SPSS Inc. for three years, said Peter Clement, assistant commissioner of the county.

The county first used the tools to examine claims filed by transportation companies for the cost of bringing recipients to doctors' appointments. The county identified \$50,000 in billings for 2003 that had no matching treatment claims, Clement said. He noted that the 40 companies providing transportation "all know we are monitoring it now and [are] looking at [claims] through these different tools."

From 2004 to 2005, he added, the county's Medicaid transportation bill decreased from \$10 million to \$9 million.

"We can't prove it, but we obviously attribute [the decrease] to the tools," Clement said.

Acquaro said that BI tools are helping county officials throughout the state prove what they have long suspected — that fraud and misuse are contributing to the substantial growth of Medicaid claims.

"Anecdotes are no longer going to be the norm," he said. "Now, through statistical-driven reporting... we're able to back up what we had suspected in ways we were not able to do in years past."

Because New York spends more than any other state on Medicaid services — \$44 billion worth in 2006 — it is important for the state to control its costs, Acquaro said. New York is also home to one of the nation's largest Medicaid populations. He noted that the state must be prepared for any federal government move to increase its share of Medicaid costs. "The stakes are high for the state of New York," he said.

Wayne Eckerson, director of research at The Data Warehousing Institute, said that fraud detection is one of the biggest uses of data mining and predictive analytics tools. ■

Bank of America VoIP Project Is on Track, Exec Says

Despite slow start, 180,000 IP phones still slated to be installed by early 2009

BY MATT HANBLER

Craig Hinkley, senior vice president of network services at Bank of America Corp., is overseeing a voice-over-IP project that will bring 180,000 IP phones to the bank's U.S. operations by early 2009. Electronic Data Systems Corp. is handling the installation and ongoing support. In an interview with Computerworld this month, Hinkley spoke about the state of the project, which began about two years ago.

In the VoIP project, which you talked about at ValueCue in February 2006, still on target, and what is the overall plan? Yes, the target is still 180,000 [Cisco]

IP phones, and it's going along nicely. We've got the program split into three areas—a branch retail, enterprise and call centers—to focus on each subprogram and to get it running without trying to boil the ocean, so to speak.



Of 180,000 total phones, we [will] have roughly 60,000 in retail, 60,000 in enterprise and 60,000 in a number of contact centers. We first focused on retail, with 60,000 branches, and had to get that program up and running. It's doing well, with 800 out of 6,000 branches completed. We are doing this with EDS, which will deploy and manage it.

What is the status of the enterprise and contact center projects? We've completed 50 enterprise locations. We're kicking off the contact center effort before the end of the year. The first location will be a medium-size contact center for internal operations used to serve bank associates in the Charlotte, N.C., area.

How many phones are installed today? We are north of 20,000. What we've done in the last 18 months is focus on establishing the program, processes and standards of what we're deploying. We've had a lot of conversations with divisional executives about how we want VoIP nationally to support business processes.

It's not just been a technology transformation, but [also] a business process transformation.

With just 20,000 out of 180,000 phones installed after two years, are you still on schedule? We are a little off pace on the schedule, but that's not [because of] the technology. We started a little slower out of the gate, to understand how to use the technology in our environment.

When will the project be completed? We still have our program completion set for late 2008 or early 2009. While we went out slower than expected, we still have enough runway to meet our commitments.

What will the project cost? We're a bank. We don't go there. It's confidential.

Is the new technology providing adequate phone service in areas such as a voice quality? From a quality and technology perspective, it's working extremely

well. We went through a process of making sure that we provide [a] level of service that is comparable to what users had before.

Did you have to upgrade the IP network to ensure adequate quality? In terms of the upgrades, the bank has been executing [a long-term strategy] for more than three years. We had implemented an Optical Carrier 49 dual-IP backbone over three years ago. So we already had a backbone speed capability to support bringing voice communications onto the infrastructure. We had refreshed a significant portion of our network switches as part of a standardization program.

Have there been any problems bringing together voice and data [if so, what]? It was not a problem, but candidly, it was a potential factor we recognized at the start. We clearly clarified that this project was transformation, not just from a technology perspective, but from a people and process perspective. We worked with them to make sure that integration within the voice and data teams occurred from Day One.

Have you added any new communications features, such as unified voice mail and e-mail? Candidly, we have not yet deployed unified communications in terms of a single box for e-mail and voice mail. We'll be phasing that in over time. We won't wait until 2008 but will layer that in.

How has this project gone for you personally? There's certainly been pain, because you are going through such a transformation across people, process and technology. You are impacting business processes and the way the associates interact with technology. There's been pain in that, but that's been countered by the fact that the technology worked well, and we've had a good, solid base to work from. We've had good, solid executive support for the program. ■

Some Vendors, Analysts Question Stack Promises

BY ERIC LAI

Vendors are scrambling to offer open-source application stacks as an alternative to integrated sets of proprietary applications that have long locked users into the technology of a single supplier.

Some vendors and analysts, however, are quick to criticize the emerging stacks, contending that they could lock in users the same way integrated stacks of a single vendor's applications have in the past.

Vendors hawk open-source application stacks whose integration is pre-certified include Hewlett-Packard Co. and IBM, Linux purveyors Red Hat Inc. and Novell Inc., and independent support providers such as SpikeSource Inc., SourceLabs Inc. and many others.

"Stacks are rigid and deterministic," said Winston Damarrillo, CEO of Simula Labs Inc., an open-source software provider in Marina del Rey, Calif. They are "prefab solutions, which most customers don't really want," he said.

Simula Labs earlier this month announced its Community-oriented Real-Time Network (Core), which the company described as a flexible framework for building, running and managing open-source software. Simula Labs also announced that open-source software providers Covad Technologies Inc., LogicBlaze Inc., Megare Inc., WebTide and Charlot Solutions have agreed to support Core.

The Core offering allows users to customize open-source stacks, offering more flexibility than the pre-certified stacks, Damarrillo said.

Davis Tharniyil, CIO at Home Insurance Co. in New York, is in the process of testing another alternative to a pre-certified open-source application stack: a custom server appliance from Raleigh, N.C.-based rPath Inc. that's designed to integrate Ingres Corp.'s open-source database with a stripped-down version of Linux.

Home Insurance tested the appliance as part of its search

for a lower-cost alternative to Oracle databases running on Solaris-based servers.

Tharniyil said that the insurer did not consider emerging pre-certified open-source application stacks in its search for a

I've been in the business for 35 years. Every time something new comes along they say it's a silver bullet. I still haven't found one.

DAVIS THARNIYIL

plug-and-play product. "A full stack just wasn't necessary," Tharniyil said. "I've been in the business for 35 years. Every time something new comes along, they say it's a silver bullet. I still haven't found one."

Dennis Callaghan, an analyst at The 451 Group in New York, said the rPath model is impressive, though he noted

that the company has "a pretty small niche and customer base at this point."

James Governor, an analyst at RedMonk, a Denver-based consulting firm, said the tidiness of open-source stacks will likely continue to appeal to some customers despite their rigidity. He suggested that the true standards-based component modularity promised by service-oriented architectures will likely make the current stacks less relevant.

Application stacks have a long history among mostly large vendors of proprietary software, such as Microsoft Corp., IBM and Oracle Corp. Such vendors contend that their integrated software products can boost interoperability and cut costs, though suppliers of best-of-breed software often note that such products also lead to vendor lock-in.

To date, the task of integrating open-source software is mostly the responsibility of corporate users—or their highly paid consultants. Such projects could easily wipe out the savings from using free software. ■



GLOBAL DISPATCHES

An International IT News Digest

Satyam Plans to Boost Its Workforce in China

HYDERABAD, INDIA

U.S.-based computer services and software development and IT services firm based here announced plans this month to increase its workforce in China from about 400 employees to 3,000 or so by 2008.

Satyam plans to expand its services business inside China and set up new service-delivery centers for customers in Japan and Hong Kong, said Raghavendra Timpoti, who heads the outsourcer's operations in China. The new staffers will also provide offshore services to North American companies.

Timpoti said Satyam is expanding in China in order to be competitive, that it has an adequate number of staffers to support its business in the long term. "We are growing fast, and India may not be able to meet all our staff requirements based on the rate, he said. The employees in China will work at customer sites, develop new facilities in Shanghai and Hefei,

a sales office in Beijing and a new development center at the Guangzhou Software Park.

■ CHY, ROBERT; IODG NEWS SERVICE

Trade Group Opposes Open-Source Proposal

MANAKI CITY, PHILIPPINES

IT Philippines Software Industry Association is opposing a bill in the country's legislature that seeks to mandate the use of open-source software by government agencies and public schools.

The Free Open Source Software Act of 2006 is scheduled for a hearing in Congress this month. Tuesday's vote of the House of Representatives, which passed the bill, who proposed the bill, has said that the open-source requirement would level the playing field for local software vendors competing against big foreign vendors.

But the software trade group, which is based here, contends that the bill could hamper the growth of the local software industry and would limit the

government's ability to choose the IT products that best meet its needs.

■ ABRIENCE O. CASIRIAN; COMPUTERWORLD PHILIPPINES

NEC Files Complaint Over Telstra's Pricing

CANBERRA, AUSTRALIA

IT's 10-year subsidiary in Australia filed a complaint with the Australian Competition and Consumer Commission (ACCC) this month over the price it is being charged to access Telstra Corp.'s telecommunications network.

NEC, Australia Pty's Network Broadband division is the latest service provider to contest Telstra's prices for connecting to its so-called nondiscriminated local loop service. Telstra, which is majority-owned by the Australian government, raised some of its access prices after proposals last year that it be allowed to institute a single monthly charge across all regions.

But the ACCC rejected Telstra's proposal in August, saying it wasn't satisfied that the terms were reasonable. The commission disclosed late last month that it had made interim findings in pricing disputes between Telstra and five other companies. The ACCC has declined to comment about NEC's complaint.

■ HOWARD GARDNER; COMPUTERWORLD AUSTRALIA

Compiled by Mike Buckner.

Briefly Noted

has set up its fourth customer support center in India, in the city of Gurgaon. The new facility is expected to employ about 1,000 people by year's end, said Dell, which also operates support centers in Bangalore, Hyderabad and Chandigarh. The Gurgaon site will support users in the U.S. and Europe.

■ JOHN HIBELD; IODG NEWS SERVICE

has released a security appliance that includes intrusion-detection software developed by Sourcefire Inc. in Columbia, Md. The Netika Intrusion Prevention appliance is designed to help companies better secure their networks as employees access corporate data remotely. The device starts at \$14,995 (U.S.) and is available as part of Netika's IP380 security system.

■ NANCY COHRING; IODG NEWS SERVICE

has named Geraldine McBride president of its Asia-Pacific operations and a member of its global field leadership team. McBride, formerly head of SAP's operations in Australia and New Zealand, now will be based in Singapore. She succeeds Hans-Peter Klages, who has been chosen to lead a new unit focused on small and midsize users.

■ SANDRA ROSSI; COMPUTERWORLD AUSTRALIA



Borland Rejects Five Bids for Tools Unit

BY HEATHER HANFSTEN

Borland Software Corp. has created a wholly owned subsidiary to run its tools business after an effort to sell the unit failed. In a recent interview with *Computerworld*, Rick Jackson, Borland's chief marketing officer, talked about the new, standalone subsidiary, its company's place in the application life-cycle management (ALM) business and its third quarter financial deficit.

Why did Borland decide not to sell the development tools group? It came down to about five bidding parties. Since the developer tools group has historically been so intertwined with

Borland operationally, it's become difficult for us to break out specific revenue figures [for potential buyers]—how much revenue to attribute to developer tools and application life-cycle management. At the end of the day, we did not feel we were going to receive the appropriate value for [the developer tools division].

To maintain the value for our shareholders and will take care of our customers—we made the decision to drop it down to a wholly owned subsidiary.

Will CodeGear prevent the tools business from continuing to drain corporate resources, which CEO

Ted Nelson had said was the reason for selling it in the first place?

The move is to separate it as a stand-alone subsidiary. [CodeGear] has its own management team, its own brand, its own sales and marketing organization. There will be no employees shared. It will be operated as a stand-alone business.

In the announcement this month of Borland's third-quarter loss of \$12.2 million, Nelson said that there will be "significant attention on reducing costs." Can you elaborate on that? At this time, we are not commenting. The executive team is working on a second pass at the operational plan—with a focus on profitability. We anticipate discussing that more during our

fourth-quarter call in February. We are really focused on making sure we can continue to drive growth this year.

The ALM business is more competitive now than the tools business. Now will Borland differentiate itself in ALM? Our top competitive is really IBM. Microsoft has a very strong developer following. They haven't done as well in the ALM space. We are taking market share. We have replaced IBM in several large accounts—at Kaiser Permanente and Electronic Data Systems.

Borland has a much more open approach to ALM. Borland offers a choice of using our tools with your specific process, versus the IBM approach, which is they try and force everyone to use their

specific process, the Rational Unified Process. Whether you use WebSphere, Ibm BPM or WebSphere from BEA or Fusion from Oracle or NetWeaver from SAP, we support all of those equally well. Rational focuses all their efforts on supporting WebSphere.

How have both ALM and tool users reacted to the decision to keep the development business? We have a customer advisory board with 20 to 25 customers in North America that helps us with strategy. The feedback was positive because it showed Borland's commitment. We've not just going to dump our tools business. We're going to ensure it is taken care of. [Borland and CodeGear] do share customers. It is critical that we continue to support those customers. ■





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BY JOHN RIBEIRO, IDG NEWS SERVICE

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Compiled by Mike Buckner.

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BY HANCO ECHING, IDG NEWS SERVICE

SAP AG has named Geraldine McRie president of its Asia-Pacific operations and a member of its global head leadership team. McRie, formerly head of SAP's operations in Australia and New Zealand, now will be based in Singapore. She succeeds Hans-Peter Kluge, who has been chosen to head a new unit focused on small and medium users.

BY SAMIRA ROSSI, COMPUTERWORLD AUSTRALIA

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Ted Nelson had said was the reason for selling it in the first place?

The move is to separate it as a stand-alone subsidiary. [CodeGear] has its own management team, its own brand, its own sales and marketing organization. There will be no employees shared. It will be operated as a stand-alone business.

In the announcement this month of Borland's third-quarter loss of \$12.2 million, Nelson said that there will be "significant attrition or reducing costs." Can you elaborate on that? At this time, we are not commenting. The executive team is working on a second pass at the operational plan... with a focus on profitability. We anticipate discussing that more during our

fourth-quarter call in February. We are really focused on making sure we can continue to drive growth this year.

The ALM business is more competitive now than tools business. How will Borland differentiate itself in ALM? Our top competitor is really IBM. Microsoft has a very strong developer following. They haven't done as well in the ALM space. We are taking market share. We have replaced IBM in several large accounts — at Kaiser Permanente and Electronic Data Systems.

Borland has a much more open approach to ALM. Borland offers a choice of using our tools with your specific process, versus the IBM approach, which is they try and force everyone to use their

specific process, the Rational Unified Process. Whether you use WebSphere (from IBM) or WebLogic from BEA or Fusion from Oracle or NetWeaver from SAP, we support all of those equally well. Rational focuses all its efforts on supporting WebSphere.

How have both ALM and tool users reacted to the decision to keep the development business? We have a customer advisory board with 20 to 25 customers in North America that helps us with strategy. The feedback was positive because it showed Borland's commitment. We've not just going to dump our tool business. We're going to ensure it is taken care of. [Borland and CodeGear] do share customers. It is critical that we continue to support those customers. ▀



Q&A



Juniper
NETWORKS



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You don't have to replace your switching infrastructure or be locked into one vendor to get the security you need. Juniper's UAC 2.0 supports open standards and provides enforcement using any vendor's 802.1X-enabled switches and access points, your existing Juniper firewalls, or both. And a single UAC deployment gives you security for guests, contractors and employees – cross platform. Juniper makes any network more secure: www.juniper.net/UAC

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MARK HALL

Thinking Crisis

WHETHER you call them the millennium generation, the Google generation or digital natives, most school kids today are considered not merely comfortable with computers, but experts with them. Why, they've had PCs at home and in the classroom since, like, um, forever.

And just watch their thumbs fly across the tiny keypads on handhelds, text-messaging and IMing their friends; see them quickly vanquish virtual enemies on their Xboxes and PlayStation with aplomb. It's little wonder, then, that some have anticipated the arrival of these technoprodigies as, well, a millennial event.

Like, no way, dude. Less than two weeks ago, I chatted with senior developer Teresa Egan and senior research scientist Irvin Katz at the Educational Testing Service. (Yes, the same ETS that creates the dreaded SAT, GRE and other standardized tests.) What they told me completely shreds the notion that this generation of tech-saturated kids is any better prepared for business or academic careers than my generation was because some of us were adept with the slide rule and compass.

ETS, together with seven major universities and colleges across the nation, devised a way to test students on their information and communication technology (ICT) literacy. What they learned from more than 6,300 test results is distressing.

For example, only 52% of college students and high school seniors were able to determine whether information on a Web site was objective, skewed or plain screwy. Only four out of 10 of this so-called Google generation knew that using multiple terms in an online search improved the results. (Don't ask if these kids know anything about Boolean searches.) And only 44%



MARK HALL is a computerworld staff writer. Contact him at mark.hall@computerworld.com.

were able to complete an online assignment and communicate their findings to others with accuracy.

So, while we've showered our children with technology, we've overlooked how they think. "It was false to assume that if we gave kids technology they would also acquire the critical thinking skills to use it effectively," concludes Egan.

Mastering the use of mice and menus is not the same as critically evaluating a problem. Our schools are producing a generation of U.S. workers who understand the intricacies of twigs and branches but can't grasp that they are looking at a tree and standing in a forest. So, it's not surprising when CIOs and other business leaders regularly tell Com-

puterworld that they continue to look overseas for new hires, as they did again last week in our cover story, "Fishing in the Global Talent Pool."

Thankfully, not all of our kids are digital idiots. A new book, *Young Wealth: Trade Secrets From Teens Who Are Changing American Business*, by USA Today reporter Jon Swartz, chronicles the successes of ICT-savvy kids who have used their technical talents, ambition and constructive thinking to create careers, build companies and, indeed, make the world a better place. However, given the statistical rigor of ETS's testing versus Swartz's fascinating anecdotes, I suspect that he has mined the rare gems, while most kids remain diamonds in the rough.

It's time adults stopped arguing about whether students should use Macs or Windows machines or study Java or C# in the classroom. That's branch and twig thinking. We need to develop creative critical thinkers, because as I look ahead, the problems in business and the world are becoming more complex, not less so. And, yes, our kids will use technology to help solve those problems. But they'll have to know how to think critically first. ▀

Don Thornton will return next week.



THORNTON A. MAY

The What And Why Of CPOs

FIVE YEARS ago, privacy was a white-hot noun. Global 2,000 organizations were falling all over

themselves trying to establish privacy organizations and policies. At that time, security guru Bill Malkin, former head of Gartner's security practice, commented, "The chief privacy officer is a trend whose time has come."

Fast forward to today. We're still waiting for the high-impact, change-my-stock-price and delight-my-customer CPO to show up and make his presence felt organizationally.

In 2006, many futurists believe we may be standing at the beginning of the largest and most life-changing technology expansion since the invention of fire. (Interestingly, it is Sarbanes-Oxley — initially labeled as an innovation-sucking bit of legislation that would do little more than provide full employment for bureaucrats — that may be viewed in the end as the great accelerator toward a truly digital society.)

Future-focused organizations are getting their information management houses in order and tightening up internal processes in advance of the big takeoff. Among the things most in need of rethinking are privacy management and the chief privacy officer. It's worthwhile, then, to consider questions regarding what CPOs do and why they're needed.

What Do CPOs Do?

I would appreciate hearing from readers who can answer that question. The fact is that privacy professionals are, for the most part, invisible to corporate, societal and consumer decision-makers. As an anthropologist studying corporate and consumer tribes, one of my tasks is to chronicle



THORNTON A. MAY is a longtime industry observer, management consultant and columnist. Contact him at thorn@computerworld.com.

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the daily routines and experiences of decision-makers. In the course of my fieldwork, I've determined that privacy professionals occupy just about zero mind share. Why is this?

Readers may be surprised to learn that there is a privacy industry. The International Association of Privacy Professionals (IAPP) has 2,800 members in 23 countries. I, Trevor Hughes, the articulate, well-read and very well-traveled executive director of the IAPP, frequently and eloquently comments on the critical role of today's privacy professionals, who he maintains "are guardians of the data that fuel our information economy."

But most privacy tribe observers agree that privacy people pretty much go to themselves. They are too private. Similar to the Amish, they don't get out much, and when they do, it is to gather in self-selected conclaves. Most

privacy events revolve around privacy people speaking to privacy people.

What Is Society's Attitude Toward Privacy?

Part of the problem is that privacy is not from-of-mind for Joe and Jane Bag-o-Donuts. Robert Samelson, writing in *The Washington Post* on Sept. 20, contends that the "Internet has unleashed the greatest outburst of mass exhibitionism in human history." A recent poll by the Pew Internet & American Life Project reports that 61% of all 13-to-17-year-olds now have personal profiles on the Web. Katharine Herrup, a cultural and style observer writing in *The New York Times* on Sept. 22, said she is convinced that "Americans do want privacy. They just struggle with deciding how much exhibitionism is too much. And they don't seem to know how to set their own privacy meters."

The Demand and Supply For Privacy

We are still a ways off from having an unambiguous take on consumers' demand for privacy. People have not really said their minds about how private they want to be. The supply of privacy is suspect as well. An RSA Security study found that nearly half of U.S. consumers have "little or no confidence" that organizations are taking sufficient steps to protect their personal data. And when a Ponemon Internet/MSNBC study asked, "Who do you trust most to protect your privacy — government or private corporations?" a full 88% picked the third option, "neither."

Why Privacy Matters

Seth Godin, entrepreneur and orator extraordinaire, introduced the concept of permission marketing. He describes a spectrum of marketing, ranging from

spam (uninvited commercial interruptions) on the bad end to what he calls "permission marketing" initiatives that depend on trust relationships and thus are able to deliver any substance at any price at any time on the good end. The only way organizations can move away from spam and toward intravenous marketing is to earn consumers' permission to collect personal information. They do this by showing that collecting the information will help them better serve the customer.

This is the sort of big, stick-price-gouging thing that a focus on privacy can produce.

Now go find out where your CPO is hiding and do something about it. *

WANT OUR OPINION?

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www.computerworld.com/columns

READERS' LETTERS

Many Cobol Coders Are Still Going Strong

IT'S HYSTERICALLY funny that 45% of the respondents whose organizations use Cobol said their ability to hire Cobol programmers was either "worse" or "much worse" than their ability to hire programmers for modern languages such as Visual Basic, C++ and Java ("Cobol Coders: Going, Going, Gone?" Technology, Oct. 9). The reason it's funny is that computer scientists were saying that Cobol was dead back in the 1960s and 1990s. (Personally, I'm an MS2 person and never believed it, since I know how much Cobol permeates the business world.) College administrators and corporate managers believed them. So colleges dropped it from their curricula, and corporate managers told people with Cobol skills that their "skills needed updating" and didn't hire them. I am now a part-time teacher at a community college and have another job that has nothing to do with programming.

In the late 1990s, when I was at another college, I convinced a faculty committee to retain Cobol, but the college's management overruled it. When my current college's computer science (IT) program underwent a curriculum review a few years back, I wrote a memo trying to keep Cobol in. It technically is still there, but it's never offered. (I teach

Visual Basic and other computer courses — not Cobol anyone.)

Wendy C. Welch
 Adjunct assistant professor,
 Suffolk County Community College,
 Selden and Brentwood, N.Y.

MY THANKS to Computerworld for reporting on the continued use of the mainframe and Cobol. There are many Cobol programmers/analysts who have learned new techniques while continuing to support the mainframe "workhorse" applications. Some of us may be interested in helping companies continue to use their Cobol applications, but we do not want to relocate. If these companies would work with us to support their Cobol applications via telecommuting, with perhaps a monthly trip to their location, they will find willing developers to hire. We are out here and available.

Betty Sims
 Systems analyst, Richmond, Va.

THE ARTICLE says that "a large percentage of [Cobol] programmers are nearing retirement age." However, the actual figures cited show a very small percentage of Cobol in the over age 55 category. The current retirement age in the U.S. is 62, at least if you want full Social Security benefits. This suggests

there's a good 12 years or more left for the vast majority of Cobol coders. Fears that the supply of coders will dry up are as exaggerated as rumors of the death of Cobol itself.

Douglas Westman
 Denver

WE WILL never run short of Cobol programmers. But we don't depend on schools to train them. We can do that in 30 days. All we need are candidates with good logic ability and a true interest in helping businesses accomplish their goals.

Dean Christensen
 IT director, NIRECA,
 Lincoln, Neb.
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Cobol Applications Can Look Good

I WAS INTERESTED to read in the article "Cobol Not Dead Yet" [Technology, Oct. 9] that "while it's well suited to batch operations, the language isn't as good a fit for developing interactive applications or Web-based front ends."

ODS manufacturers software for the auto/truck/agriculture dealer industry, and we still actively code in Cobol. When faced with giving our product a face-lift, we used Acropolis's new version of Acropolis, which allows us to generate a "Windows"-

looking screen while maintaining solid business logic. The results are a terrific-looking desktop management system that we were able to get to market in approximately two years, with all the features we offered in the past and more. I know of many companies that, after hundreds of thousands of dollars and many years invested, have scrapped their attempts to migrate their code to another platform.

Colleen Callahan
 Vice president, operations,
 Debugger Data Services,
 Cheshire, Conn.
Colleen.Callahan@dddservice.com

Editor's Admissions Inspire Respect

I'VE KNOWN about editor in chief Don Tennant's editorial and personal integrity since long before he wrote his "Dear John" editorial and the plagiarism confession "Editorial Integrity" [Editorial, Oct. 9]. I wasn't surprised by either one. As a longtime reader, that's the kind of integrity I've come to expect, issue after issue.

Tennant and Frank Hayes have often looked bad or had eggs on their faces because of their truthfulness. But that's what makes them both good. Computerworld's readers aren't stupid. Tennant has always held himself to a higher standard,

higher than we would expect.

Many times, I have thought to myself, He didn't have to write that—who would have known? The answer is that he would have known, and that is why Computerworld is Magazine of the Year—because of consistent honesty that we have come to expect. That's why we come.

Jack Miller
 Director of IT, Wildflint, Ohio

No to Data Mashups

USERS AREN'T likely to buy into a push for their data in something called a "mashup" ("Small Office 2.0 Vendors Ally to Fight Microsoft, Google Threats," "Computationalism," Oct. 12). It's like naming a car model the Lexus.

Geoffrey A. Barkin
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 Thoracic Cardiovascular
 Institute, Lansing, Mich.
gbarkin@tci.thearc.com

COMPUTERWORLD welcomes comments from its readers. Letters will be edited for brevity and clarity. They should be addressed to: Jamie Eschle, letters editor, Computerworld, PO Box 9071, Spoken Street, Framingham, Mass. 01901. Fax: (508) 679-4943. E-mail: letters@computerworld.com. Include an address and phone number for immediate verification.

TECHNOLOGY

11.27.06

Avoiding Data Migration Delays

An IT veteran offers six ways to approach data migration so it won't cause embarrassing project delays. Hint: Avoid data synchronization. **PAGE 24**



SECURITY MANAGER'S JOURNAL Putting the Brakes On Net Integration

After looking at an acquisition target's network, Mathias Thurman figures that he'll have to essentially start from scratch to protect the corporate network. **PAGE 26**

OPINION

Microsoft's Sock in the Vacuum

Robert L. Mitchell says the new user interface and file format that comes with Microsoft's Office 2007 will cause some problems — just like the wayward sock that ruined his new vacuum cleaner. **PAGE 28**



Technopundits have predicted the arrival of "smart spaces" for years. Your car sends a message to a robot in your kitchen, so it can have your martini ready when you arrive home in the evening. A software agent on your LAN knows not to interrupt you with a phone call — unless it's from your boss — because you're working on a presentation for a meeting later that day.

By
Gary
Anthes

A computer in your grocery store recognizes you and prints out a suggested shopping list based on your past purchasing patterns.

It's fun to think about these scenarios, but we rarely encounter them in the real world. Who

besides Bill Gates lives in an environment in which IT senses and responds to the behavior of the people in it? Your PC knows you haven't touched it for 30 minutes, so it turns on the screensaver. That's about it.

Yet the technology to make our environments smarter and more responsive to our needs largely exists. Sensors of all types, actuators, radio frequency identification (RFID) tags, large touch-screen displays, digital cameras, personal software agents, machine-learning algorithms, voice- and image-recognition software, even robots — these aren't just the dreams of science fiction writers anymore.

The impediments to the widespread deployment of

Continued on page 22

If These Were Smart Spaces



They may do that and more if the promise of smart spaces is ever realized. The technology is available, but cost and other factors remain obstacles.

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Continued on page 29



_INFRASTRUCTURE LOG

_DAY 35: Whoa! Came in today and found a black hole. Information goes in but doesn't come out. This is bad.

_DAY 36: The black hole just sucked in three interns. HR is not pleased.

_DAY 38: I've taken back control with IBM Information Management middleware. It's built on open standards. Totally scalable. Seamlessly unites all our critical information, whatever its source. Now our info has real business value that can help spur growth.

_We got everything back from the black hole. Except the interns.

Information Management

See innovative IBM Info Management solutions in action:

IBM.COM/TAKEBACKCONTROL/INFOMGMT

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Continued from page 20

smart spaces lie elsewhere—in the form of problems related to cost, interoperability, accuracy and reliability. And there are the social and cultural challenges, just how much do you want systems to know about you? And how willing are you to have them make decisions for you, no matter how helpful they might seem?

Still, progress is being made. For example, researchers at Stanford University have invented a collaboration space called the iRoom, or "interactive room." A prototype includes several whiteboard-size touch-sensitive displays along the walls, a 6-foot custom-built display with pen input, an interactive display that doubles as conference room table, and a variety of cameras, microphones and wireless interaction devices.

Teams meeting in the iRoom can move information seamlessly among the devices and applications and to and from devices they bring into the room with them, such as laptops and handhelds. Any user can control any device on a wireless LAN that connects everything.



STEFAN HILD, SENIOR MANAGER FOR RESPONSIVE ENTERPRISE SOLUTIONS, IBM RESEARCH

To make it all work, researchers created what they call the Interactive Room Operating System, or iROS, a metaperating system for tying together disparate devices. "We have taken the operating system idea to the space level, so people can coordinate their work in an environment with multiple devices," says Terry Winograd, a computer science professor at Stanford.

Winograd and his students are now moving on to specific applications. For example, they are trying out the interactive table on people with Asperger's syndrome, a type of autism. Such people often are whizzes at using computers but poor at working with other people; the hope is that the table might help them improve their social skills.

Winograd says a key impediment to users' acceptance of rich, multimedia spaces is "distraction," something iROS was designed to minimize by making the technology as seamless

and transparent as possible.

"Whenever you have to stop focusing on what you care about to focus on how the machine is doing it, you lose fluency," Winograd says. "In every design of an interaction, that's a concern you want to bring to it."

Building an E-office

Several years ago, IBM teamed up with Steelcase Inc. in Grand Rapids, Mich., to develop BlueSpace, a prototype office that integrates sensors, actuators, displays and wireless networks into an office space. Guided by user commands via touch screens, these gadgets can dynamically optimize heating, ventilation and lighting, and control interruptions depending on the perceived behavior of the occupant.

The prototype room even has a "steerable" projector that can project images onto any surface in the office. Aided by a sensor in his desk chair and other detectors, the occupant's incoming e-mail is sent by the projector to the surface most likely to be visible to him at a given moment.

The IBM/Steelcase prototype is intended to prove the viability and value

of the concept, says Stefan Hild, senior manager for responsive enterprise solutions at IBM Research. The prototype serves those two purposes, he says, but because it requires specialized hardware and furniture and a

high level of integration, the system is not practical for most companies.

"The investment of making an office building and enabling it that way is fairly high," Hild says. "But you can get 80% of the benefit with 20% of the cost." A follow-up project at IBM called mySpace aims to give office workers greater control over their work spaces, mostly using technology already in many office buildings.

"So if you have a wireless LAN in your office, it implicitly also gives you a location system because you can get the 802.11 endpoints, such as your laptops, so I get the location of my co-workers," Hild says. "And you may know voice over IP as a telephone system, but VoIP in your office building also gives you a level of presence information. And if it's integrated with my calendar, you can use the system to figure out when I'm available."

But widespread deployment of smart spaces faces two tough chal-

Grounded

You enter an airport terminal and your airline's computer detects your presence because you call phone a location-aware

And since you're carrying the airline's RFID-enabled frequent flyer card, you are checked in electronically and seated in electronic boarding pass. The system sets a flag in a passport control so that when you approach your passport image is electronically displayed. You board the plane without ever touching a piece of paper or a screen.

An airport circa 2010? No. Swissair had just such a system in operation at the Zurich airport

lenges, Hild says. First, such projects tend to incorporate scores, if not hundreds or thousands, of devices, each capable of generating torrents of data. Scaling up networks, central processors and storage systems to handle that is an obvious challenge, he says.

"But a much deeper issue," Hild says, "and one that will be with us for many years to come, is that our IT systems today are optimized to process data extremely reliably but not necessarily very fast." In contrast, smart environments generally must process sensor input in milliseconds. A collision-avoidance system in an airplane must react immediately. A package bearing an RFID tag moving across a receiving dock must tell a worker within a second or so where to put it, not five minutes later.

"Marrying this real-time world with the transactional world is the real challenge we are facing," Hild says.

The Dark Side

Hild echoes the concerns of many researchers about the reliability of increasingly complex, distributed and heterogeneous systems. "One of my worries is we are not building circuit breakers into integrated business processes," he says. "What will happen eventually is that a faulty sensor reading somewhere will have a ripple effect through the network and cause untold damage somewhere else. We need something that knows what normal is and, if it's widely outside the norm, raises an alarm."

"Reliability is a major, major issue that's not being recognized at this point," agrees Leonard Kleinrock, a computer science professor at the University of California, Los Angeles, and one of several engineers credited with creating the Internet. "The complexity is essentially out of hand. We used to think that the systems we

built we could understand, but that's no longer the case."

And things will get even more complex as we move to smart homes, offices, factories, stores and automobiles, Kleinrock says. "We are deploying on the order of 1 billion microcontrollers a year, in the car, in refrigerators and so on. But they haven't yet fully engaged the end user, and they are not networked. But I see that coming. It's going to surprise people when they begin to interact with these devices."

Scott Hudson's studies of human behavior are aimed at making smart environments more acceptable to their occupants. Hudson, a professor of human-computer interaction at Carnegie Mellon University, says people have traditionally thought that the interruptibility of an office worker depends primarily on two things: how deeply the worker is engaged in an important task, and whether the worker is socially engaged with another person, as in a phone call.

"But it turns out in our studies that it's much more about social engagement," Hudson says. He says his experiments with voice detectors in workers' offices show that a system can predict the workers' willingness to be interrupted at any given moment with 85% accuracy.

Asked about machine learning and statistical models that might eventually tune smart offices to the habits of each unique occupant, Hudson says he has been surprised by how well certain techniques work across groups. "But in the end," he says, "I think we'll want to go to individual models for that extra 5% or 10% of accuracy."

But isn't 90% good enough? "Well, you can say it's pretty good, or you can say no, it's wrong one time in 10," says Hudson. Many users find that kind of experience frustrating and unacceptable, he says. ■

Continued from page 20

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To make it all work, researchers created what they call the Interactive Room Operating System, or *iROS*, a metaperforming system for tying together disparate devices. “We have taken the operating system idea to the space level, so people can coordinate their work in an environment with multiple devices,” says Terry Winograd, a computer science professor at Stanford.

Winograd and his students are now moving on to specific applications. For example, they are trying out the interactive table on people with Asperger's syndrome, a type of autism. Such people often are whizzes at using computers but poor at working with other people; the hope is that the table might help them improve their social skills.

Winograd says a key impediment to users' acceptance of rich, multimedia spaces is “fluency,” something *iROS* was designed to minimize by making the technology as seamless

and transparent as possible.

“Whenever you have to stop focusing on what you care about to focus on how the machine is doing it, you lose fluency,” Winograd says. “In every design of interaction, that's a concern you want to bring to zero.”

Building an E-office

Several years ago, IBM teamed up with Steelcase Inc. in Grand Rapids, Mich., to develop BlueSpace, a prototype office that integrates sensors, actuators, displays and wireless networks into an office space. Guided by user commands via touch screens, these gadgets can dynamically optimize heating, ventilation and lighting, and control interruptions depending on the perceived behavior of the occupant.

The prototype room even has a “detectable” projector that can project images onto any surface in the office. Aided by a sensor in his desk chair and other detectors, the occupant's incoming e-mail is sent by the projector to the surface most likely to be visible to him at a given moment.

The IBM/Steelcase prototype is intended to prove the viability and value of the concept, says Stefan Hild, senior manager for responsive enterprise solutions at IBM Research. The prototype serves those two purposes, he says, but because it requires specialized hardware and furniture and a

high level of integration, the system is not practical for most companies.

The investment of making an office building and enabling it that way is fairly high,” Hild says. “But you can get 80% of the benefit with 20% of the cost.” A follow-up project at IBM called mySpace aims to give office workers greater control over their work spaces, mostly using technology already in many office buildings.

“So if you have a wireless LAN in your office, it implicitly also gives you a location system because you can get the 802.11 endpoints, such as your [laptops], so I get the location of my co-workers,” Hild says. “And you may know voice over IP as a telephone system, but VoIP in your office building also gives you a level of presence information. And if it's integrated with my calendar, you can use the system to figure out when I'm available.”

But widespread deployment of smart spaces faces two tough chal-

lenges, Hild says. First, such projects tend to incorporate scores, if not hundreds or thousands, of devices, each capable of generating torrents of data. Scaling up networks, central processors and storage systems to handle that is an obvious challenge, he says.

“But a much deeper issue,” Hild says, “and one that will be with us for many years to come, is that our IT systems today are optimized to process data extremely reliably but not necessarily very fast.” In contrast, smart environments generally must process sensor input in milliseconds. A collision-avoidance system in an airplane must react immediately. A package bearing an RFID tag moving across a receiving dock must tell a worker within a second or so where to put it, not five minutes later.

“Marrying this real-time world with the transactional world is the real challenge we are facing,” Hild says.

The Dark Side

Hild echoes the concerns of many researchers about the reliability of increasingly complex, distributed and heterogeneous systems. “One of my worries is we are not building circuit breakers into integrated business processes,” he says. “What will happen eventually is that a faulty sensor reading somewhere will have a ripple effect through the network and cause untold damage somewhere else. We need something that knows what normal is and, if it's widely outside the norm, raises an alarm.”

“Reliability is a major, major issue that's not being recognized at this point,” agrees Leonard Kleinsrock, a computer science professor at the University of California, Los Angeles, and one of several engineers credited with creating the Internet. “The complexity is essentially out of hand. We used to think that the systems we

built we could understand, but that's no longer the case.”

And things will get even more complex as we move to smart homes, offices, factories, stores and automobiles, Kleinsrock says. “We are deploying on the order of 1 billion microcontrollers a year, in the car, in refrigerators and so on. But they haven't yet fully engaged the end user, and they are not networked. But I see that coming. It's going to surprise people when they begin to interact with these devices.”

Scott Hudson's studies of human behavior are aimed at making smart environments more acceptable to their occupants. Hudson, a professor of human-computer interaction at Carnegie Mellon University, says people have traditionally thought that the interruptibility of an office worker depends primarily on two things: how deeply the worker is engaged in an important task, and whether the worker is socially engaged with another person, as in a phone call.

“But it turns out in our studies that it's much more about social engagement,” Hudson says. He says his experiments with voice detectors in workers' offices show that a system can predict the workers' willingness to be interrupted at any given moment with 85% accuracy.

Asked about machine learning and statistical models that might eventually tune smart offices to the habits of each unique occupant, Hudson says he has been surprised by how well certain techniques work across groups. “But in the end,” he says, “I think we'll want to go to individual models for that extra 5% or 10% of accuracy.”

But isn't 90% good enough? “Well, you can say it's pretty good, or you can say no, it's wrong one time in 10,” says Hudson. Many users find that kind of experience frustrating and unacceptable, he says. ■

Grounded

YOU enter an airport

_INFRASTRUCTURE LOG

_DAY 19: The business is, uh, coming apart. I.T. isn't in sync with the suits. No one's sure what they need to do. It's totally out of control.

_DAY 20: Gil fell into the crack. Maintenance is on it.

_DAY 24: I've got it. IBM Rational. A modular platform that lets us govern the entire development process and align it with our business goals. Now everyone's on the same page. Plus, we can ensure our software's in compliance and implement a service oriented architecture.

_Everyone's glad the crack is gone. Gil says his nightmares about "the dark place" are practically over.

IBM

Rational

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A SA TECHNICAL MATTER, migrating data from an old computer system to a new one should be straightforward. There are common industry practices that can help, such as running field-mapping and conversion scripts, and using extract, transform and load tools. So why does data migration so often turn good IT projects into bad ones, with embarrassing delays that drag on for weeks or months?

In my experience, the delays are often the result of getting off on the wrong foot — failing to adequately plan the approach to data migration at the outset. The technical issues can be complex, but at least they're predictable. It's the nontechnical strategy that often causes delays down the road.

The goal of data migration (or conversion) is to move data from one system to the data fields in a new system with as much accuracy and completeness as possible. Here are six ways IT managers can accomplish this very complex work with less stress and fewer delays.

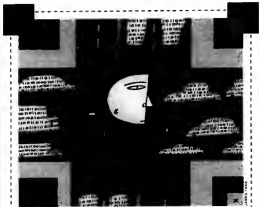
- 1 AVOID DATA SYNCHRONIZATION.** Companies often run the existing system and the newly developed replacement system in parallel while they test to see if data conversion is working properly. There's a natural temptation to write data synchronization routines, which run nightly, to keep the two systems' data in sync.

The problem is that you may be writing hundreds or thousands of lines of code to create those routines, which become essentially a third system with its own set of bugs to fix. In extreme cases, maintaining these data synchronization routines takes on a life of its own, with so much time spent fixing synchronization bugs that little or no effort goes toward finishing the new system.

Synchronization almost always causes delays. It adds too many layers of complexity for you to maintain your sanity and your project schedule.

- 2 DON'T SHY AWAY FROM DOUBLE ENTRY.** If your new system requires validation of data that's manually entered, such as customer orders, you should really push for double entry. Try to get users to enter data twice, in the old system and the new system, and then reconcile any differences. This will be unpopular, but you won't need data synchronization routines, which (as we've seen) cause delays.

There are side benefits to this approach, such as uncovering more of those troublesome exceptions and anomalies that pop up in the real world of data entry. Users will get more prac-



AVOIDING DATA MIGRATION DELAYS

How to handle data conversion so it won't wreck your project. **By Michael Strange**

tial training on the new system, and they can provide more constructive feedback on the user interface. Plus, you'll have an incentive to finish testing quickly so you can end the pain of double entry as soon as possible.

- 3 DETERMINE THE "SYSTEM OF RECORD."** Many data conversion projects start by asking, "What data is stored?" and "How much of it must be converted?" These are good questions, but an even more fundamental question is, "Where is the system of record?" The system

of record is the definitive source of a particular data element, such as an account number or customer address.

If your new application is going to be the system of record, you'll need to pay extra attention to data quality, which will require more testing and verification time. Incorporate this extra time into your schedule so it isn't a big, late surprise. And remember that the system of record may vary for different portions of your data model, which can make the situation even more complex.

If the new system isn't the system of record for a particular data element, then data integration — perhaps using Web services — may be a better way to go than data conversion.

- 4 GET AGREEMENT ABOUT WHAT "DONE" MEANS.** With large-scale data conversion, you usually don't achieve 100% data perfection. So hammer out an agreement on the definitions of complete and verifiable. Are you going to spot-check selected records? Are there variance reports or comparison reports that can help? What percentage of the data will be checked?

Some project teams set a deadline for this activity, allowing a certain amount of time to verify the data and correct

any issues that arise. But it's better to define a preset number of tests, their frequency and the expected results.

Avoid the situation where your CIO asks, "Have you checked all the data? Is it perfect?" This isn't the time to explain that absolute guarantees aren't possible — that should have been made clear at the beginning.

- 5 CONSIDER STAGING HISTORICAL DATA EARLY.** Before testing begins, most project teams prepare a staging environment to isolate testing activities and then populate the database with fake testing data or a subset of production data.

But instead of faking it, a better approach may be to prepopulate the new system with a full set of real production data. True, users will have to be more careful with this data than they would be with fake data, but the advantage is that you'll be testing your data-migration scripts on something that mimics the production system, in all its glory and problems. One side benefit is that you'll get an excellent understanding of response times under a full data load. Even better, you may eliminate the need for a complicated and nerve-racking last-minute conversion.

- 3 CAREFULLY PLAN THE LAST-MINUTE DATA CONVERSION.** If your system project includes extensive last-minute conversion, you'll likely be working a weekend to do the final cutover. To avoid nasty surprises, remember that the sequence in which you do the data conversion matters because of dependencies inherent in the data model. You can't successfully pour data into fields that have built-in constraints that will reject the data. For example, if the new database requires a customer account number before adding an address, the customer account list must be migrated first — or you'll need to temporarily relax those constraints so you can proceed. To uncover these dependencies, test the loading sequence ahead of time.

Then, during the weekend conversion, pause after each loading step to verify that it really worked. You don't want to get seven steps into the process only to find out the first one failed.

Consider these issues before you start data migration, and you'll identify the hidden issues that can cause unexpected delays. And maybe you'll actually finish the weekend conversion before midnight on Sunday. ■

Strange was until recently senior vice president of IT at William O'Neil & Co. in Los Angeles. Contact him at mstrange1234@yahoo.com.

Got Questions About Application Performance?

Computerworld's IT Executive Summit Has the Answers



Today's businesses are challenged in delivering high performance applications. Whether it's system complexity, overcoming the barriers to enabling rapid change and collaboration, or discovering problems too late to effectively fix them, the hurdles are daunting for those leading today's application deployment.

To overcome the obstacles, IT managers need to identify and eliminate performance production problems early and build performance into applications from the earliest phases of the development life cycle, rather than attempting to test too late.

This IT Executive Summit will explore how companies have effectively dealt with these challenges and how they've found solutions. And it will outline the questions IT needs to ask and answer to optimize application performance throughout their organization.

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* Complimentary registration is restricted to qualified IT directors only.

December 5, 2006 • Irvine, California

Irvine Marriott

8:00am to Noon

Ahead of the Curve: Optimizing Application and Business Performance

8:00am to 8:30am

Registration and Networking Breakfast

8:30am to 8:40am

Introduction and Overview

Ron Milton, Executive Vice President, Computerworld

8:40am to 9:20am

Market Overview and Trends

Michael Hugos, Former CIO and Author of *Essentials of Supply Chain Management and Building the Real Time Enterprise: An Executive Briefing*

9:20am to 10:00am

Application Performance at Broadcom Corporation: An End-User Case Study

Ken Venner, Senior Vice President and Chief Information Officer, Broadcom Corporation

10:00am to 10:15am

Refreshment and Networking Break

10:15am to 10:50am

Application Performance Assurance Case Studies: It Pays to be Predictable

Andrew Hittle, Vice President, Quality Assurance Solutions, Compuware

10:50am to 11:25am

Application Performance: An End-User Case Study

Kenneth Speller, Director of Quality Assurance, Chicago Board of Trade

11:25am to Noon

Panel Discussion

Moderator: Ron Milton, Executive Vice President, Computerworld

Panelists: Michael Hugos, Former CIO and Author of *Essentials of Supply Chain Management and Building the Real Time Enterprise: An Executive Briefing*; Andrew Hittle, Vice President, Quality Assurance Solutions, Compuware; Ken Venner, Senior Vice President and Chief Information Officer, Broadcom Corporation; Kenneth Speller, Director of Quality Assurance, Chicago Board of Trade

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Putting the Brakes On Net Integration

Assessment of acquisition target's network tells our security manager he'll almost have to start from scratch. By Mathias Thurman

MY COMPANY is moving ahead with an acquisition I mentioned back in August, and last week I completed my initial assessment of the security issues that will arise in integrating the two networks. Brace your self—it's not pretty.

I visited our acquisition target's main offices in Connecticut and New Mexico.

I brought along a contractor to conduct much of the assessment work while I met with the management team to learn about the company's business processes, intellectual property issues, policies and so on.

We could just install Multi-protocol Label Switching (MPLS) to connect these offices and their 600 employees to my company's network, but that would essentially grant them access to a majority of our internal infrastructure. As the security manager, I can't allow that until I can vouch for the integrity of the acquired company's network and the efficacy of its policies. Most likely, we will want to bring the new company's policies to line with ours, since this year we suffered only one major virus outbreak, the result of an employee connecting a personal laptop to our domain.

In assessing the issues we faced, I focused on several key areas. The first was malicious code. I need to ensure that we don't introduce anything like viruses, spyware or Trojan horses into our network. To determine if this company has any malicious code running free, I had the consultant con-

duct some scans. Right off, he found indications of spyware—network traffic symptomatic of desktops "calling home" to transmit keystroke capture files or other collected data. Nessus, a freely available port scanner, detected indications of malicious code listening in on nonstandard ports.

Next, we focused on questionable external connections.

We had to make sure that this company didn't allow third-party access to its network and that the firewall, routers,

VPN and wireless access points wouldn't allow unauthorized access. This time, we ran into a couple of problems. One was the configuration of wireless APs. The company was using WEP with a shared key, but it hadn't changed the key in years, and the AP terminated on the internal network.

My company's standard is to use WPA with the Temporal Key Integrity Protocol, and we terminate the access points on a virtual LAN so that the only device that can be reached is a VPN gateway. This forces all employees to use a VPN to get into our network from the access point. I'm not touting this as the most secure means of providing wireless access, but it's a lot more secure than

a shared WEP key that hasn't been changed in years.

The other problem was a firewall rule that allowed access to the company's internal network from a very large network range completely outside the company's registered network addresses. No one seemed to know what it was about. Some Internet searches revealed that the address range belonged to a third-party network integration company, one that I learned was hired for a 30-day contract more than two years ago. This was not good.

Next up was unacceptable use. I impose strict controls to block many of the common peer-to-peer software technologies, and we filter Web traffic at our caching servers to prevent employees from browsing Web sites that we deem to be unacceptable, such as porn or gambling sites. This time, scan data showed that many employees are using peer-to-peer software. And the company doesn't block outbound Web access, so employees are free to visit any Web site at all. My company's view is that unrestricted access can lead to various legal, human resource and productivity problems.

More Problems

Areas of concern were mounting, and we still hadn't looked into issues that might arise from the company's critical devices: domain controllers, source-code repositories, file servers, firewalls, VPN concentrators and so on. When we did so, it was obvious that no one had taken the time to conduct any type of configuration management or general maintenance after the servers were built. Patches were out of date. No password policy was being enforced; administrative passwords were left blank or were easily crackable. There was

even a SQL payroll database that used the default password for the administrative account. The desktop and server virus-protection engines were more than three years old.

As you can guess, there's no way I'm going to allow our company to install the MPLS circuit without some serious remediation. To start with, I'm mandating that all desktops and servers receive the latest recommended patches for both operating systems and applications. The latest virus engine and pattern file will need to be installed, and all systems must be scanned and free from malicious code. Anything that can't be cleaned will need to be rebuilt.

The company will have to configure its domain to enforce a strong password policy, and all administrative and privileged account passwords will have to be changed. I'm having the critical servers checked with RootkitBeaver, a useful utility that can be downloaded from Microsoft's Web site. It essentially lists registry and file-system API discrepancies that may indicate the presence of user- or kernel-mode rootkits.

Now, I know that some systems, such as engineering, development and lab servers, will be exceptions. And of course, we won't know about all resources. So I will also be mandating the installation of two intrusion-protection devices. One will sit between the two companies (on the MPLS circuit), and the other will be between the acquired company and its Internet circuit.

I'm hoping that with this plan, plus some additional policy enforcement, I'll be able to limit any illicit activity from reaching my company's network. I'll keep you posted. ■

WHAT DO YOU THINK?

This week's journal is written by a real security manager. Mathias Thurman's whose name and employer have been disguised for obvious reasons. Contact him at mathias.thurman@photon.com, or join the discussions in our security blogs: computerworld.com/blogs/security... to find a complete archive of our Security Manager's Journal, go online to computerworld.com/samjournal

SECURITY LOG



SECURITY
MANAGER'S
JOURNAL

The Science of CERTAINTY

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BRIEFS**Cape Clear Adds
BAM to Data Bus**

■ Cape Clear Software Inc. this month rolled out business activity monitoring software designed to give companies a real-time view of the performance of their business processes. Called Cape Clear BAM, the product works with the Watrous, Mass.-based vendor's enterprise service line to take data feeds from the ESB and provide that information to users in dashboards that can show inventory problems, shipment delays or other performance issues, the company says. The software is available now at all of Cape Clear's ESB, which sells for \$75,000 and up.

**Fujitsu Unveils
Ethernet Switch**

■ Fujitsu Computer Products of America Inc. recently announced the XE2000 series of Ethernet switches, which offer throughput of 100Mb/sec. The XJ (1.75-in.-high) rack-mounted switches come in a 20-port optical version and a version with 16 ports of copper and four of fiber (Model XE2000C). The XE2000C retails for \$1,200. The XE2000C is available in December, at \$18,000. The XE2000C will ship in the first quarter of 2007.

**Service Upgrades
BPM Features**

■ Service Inc. this month brought out a new version of its business process management suite. Service Business Manager 7.0. It includes a new abstract modeling feature to help business users design new processes, and a Process Concierge function that offers user support via instant messaging and discussion forums, the Santa Clara, Calif.-based vendor said. Another new feature is forensic auditing, which enables users to see the history of process changes to ensure compliance with Sarbanes-Oxley Act rules. Pricing for Service Business Manager 7.0, which will be available Dec. 15, starts at \$100,000.

ROBERT L. MITCHELL

Microsoft's Sock in The Vacuum

SHORTLY after my daughter was born, my wife and I decided to turn in our old canister vacuum for a spiffy new upright model. But the manufacturer's inattention to one small detail ruined the whole experience. Just seconds after I unpacked and turned the thing on, it sucked up a baby sock hiding under my daughter's dresser.

The overlooked detail was this: Unlike our canister vacuum, the upright model's motor was in front of the debris bag rather than behind it. The sock hit the impeller on the motor and promptly jammed. Before I could step on the power button, the motor went up in smoke. A week later, we were using our familiar old canister vac again.

For the soon-to-be-launched Microsoft Office 2007, the sock in the vacuum is the new user interface. Users who are comfortable with the old Office interface may get all jammed up before they even open a file. Where's the File menu? It's gone, replaced by the Office Button, a colorful, disk-shaped graphical object. Somehow, you must know to click on that button to find menus for basic functions such as opening or saving a file.

The familiar File, Edit, View, Insert menu system has been replaced by a context-sensitive Ribbon bar. Many functions have been moved around and regrouped in ways that may seem illogical or confusing to experienced users.

After the initial shock wears off, Office 2007 users will find much to like about the suite. The challenge will be getting people over that initial hump — and keeping them from blowing a fuse during the transition.



Jensen Harris, principal lead program manager for Office 2007, says IT should expect a "temporary loss of productivity" as users come up to speed. He expects "recovery" in one to three weeks. Organizations that plan to move forward with Office 2007 will need to sell users on the benefits and roll this version out with plenty of training and support resources to avoid end-user frustration.

Computerworld recently surveyed 171 Office 2007 beta testers and found that most of them like the product and 72% said they have upgrade plans. But the other 28% expressed strong negative feelings about the user interface.

The strongest reactions came from advanced users who are heavily invested in the existing user interface. Diane Pencil, lead enterprise architect at Owens Corning, says there's something soothing about clicking down through the menus to find those familiar functions. "That's what these new processes mess with," she says.

By the way, if Eureka had installed a simple, 10-cent circuit breaker button on my upright vacuum, I might still be using it today. Likewise, it would be nice if Office 2007 had a little red button that allowed you to fall back to "classic" menus.

Then again, because the new user interface is a key benefit, enabling clas-

sic menus would defeat the purpose of upgrading; it would also make new features unavailable.

If training isn't enough of a challenge, there's another sock in the vacuum: the Open XML file format that debuts in Office 2007. Although Open XML has clear benefits, IT administrators who went through the Office 97 transition may recoil in horror at another format that's not backward-compatible, despite the fact that Microsoft has introduced tools it says will make the transition go more smoothly.

Microsoft wants everyone to immediately download a new compatibility pack that will enable Office 2003, XP and 2000 users to read, docx and other Open XML file formats. But getting everyone to swallow that 26.6MB compatibility pack won't be easy. Not only will your company need to make the transition, but your business partners will as well.

Even if everyone does download the compatibility packs, things can still get lost in the transition. In some cases, new features will be eliminated or dumbed down.

For example, document objects such as the new Smart Art get calcified into bit maps when viewed in Office 2003 or earlier in compatibility mode (but are "rehydrated" into Smart Art again when the Office 2007 user opens them). Fortunately, Microsoft did install a circuit breaker for Open XML. You can set a group policy to have all Office 2007 users default to saving in the traditional, binary format. Although that means some features will be unavailable, IT should push that button — at least initially. Forgoing Open XML may not be optimal in the long run. In the short run, however, getting users to swallow the new interface will be much more important. ■

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Got Questions About Wireless Security?

Computerworld's IT Executive Summit Has the Answers



The growth of wireless networks within the last few years has been explosive, and as a result, IT departments must keep up with the potential abuses of wireless technologies. There are few control mechanisms available to mitigate risk, and users continue to discover ways around available controls for wireless networks. IT departments must face unique challenges to protect the integrity, confidentiality and availability of critical business information on wireless systems.

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Securing the Enterprise Infrastructure from Wireless Threats

7:45am to 8:15am

Registration and Networking Breakfast

8:15am to 8:30am



Introduction and Overview

Ron Milton, Executive Vice President, Computerworld*

8:30am to 9:15am



Market Overview and Trends

Ken Davis, Chief Information Security Officer and Partner, The Barner Group LLC and former CSO, Allstate Insurance

9:15am to 9:45am

End-User Case Study: The Weather Channel

John Penrod, Chief Information Security Officer, The Weather Channel

9:45am to 10:15am

Refreshment and Networking Break

10:15am to 10:45am



Industry Visionary Presentation

David J. Thomson, Director, Security Engineering, Sourcefire

10:45am to 11:15am

End-User Case Study: TD Ameritrade

Alan Lustiger, Security Architect, TD Ameritrade

11:15am to Noon

Discussion Panel

Moderator: Ron Milton, Executive Vice President, Computerworld

Panelists: Ken Davis, Chief Information Security Officer and Partner, The Barner Group LLC and former CSO, Allstate Insurance; John Penrod, Chief Information Security Officer, The Weather Channel; Alan Lustiger, Security Architect, TD Ameritrade; David J. Thomson, Director, Security Engineering, Sourcefire

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MANAGEMENT

BY MENTOR
A Small-Project Playbook

PAGE 33



ADVICE
Managers' Forum

How can a small business IT workers have enough problem? It can't be as good as it sounds. See also Paul Gilson PAGE 34

OPINION
IT, We Have a Problem!

When Paul Hirschhorn learned that MRA class recently, he learned that IT's main, among young business people, is as bad as ever. PAGE 36

It's hard to pin an ROI on the **flexible workplace**, but IT managers say it pays off.

WORK/LIFE BALANCE:

What's It Worth?

MARY FINLEY, deputy CIO at Partners HealthCare, says that flexible work options build a workforce that's willing to go the extra mile.

ANNOVA PROGRAMMER approached Mary Finley with a request. After just a year on the job, he wanted to work four 10-hour days so he could have every Friday off, a schedule that would allow him to play Thursday night gigs with his rock band without worrying about the next day's work.

Many IT executives would say no, but Finley, deputy

CIO at Partners HealthCare System Inc. in Boston, OK'd the plan. "He was smart and talented, and we wanted to keep him," she explains. Her decision paid off: He stayed with Partners for nearly a decade.

As Finley's story shows, employees aren't the only ones who get something out of flexibility in work schedules. Companies do, too. Actual ROI figures are hard to come by.

Continued on page 42



MANAGEMENT

11.27.06

IT MENTOR

A Small-Project Playbook

Football coaches use playbooks to ensure accurate coordination among team members. Tom Barnett (right) says a project playbook can serve the same purpose — especially when your team is geographically dispersed. **PAGE 33**



ADVICE

Managers' Forum

How can you tell if your IT workers have a morale problem? If you have to ask, they probably do, says Paul Glen. **PAGE 34**

OPINION

IT, We Have a Problem!

When Paul Ingevaldson taught an MBA class recently, he learned that IT's image among young business people is as bad as ever. **PAGE 36**

It's hard to pin an ROI on the **flexible workplace**, but IT managers say it pays off.

What's It Worth

A YOUNG PROGRAMMER approached Mary Finley with a request: After just a year on the job, he wanted to work four 10-hour days so he could have every Friday off, a schedule that would allow him to play Thursday night gigs with his rock band without worrying about the next day's work. Many IT executives would say no, but Finley, deputy

CIO at Partners HealthCare Systems Inc. in Boston, OK'd the plan. "He was smart and talented, and we wanted to keep him," she explains.

Her decision paid off: He stayed with Partners for nearly a decade.

As Finley's story shows, employees aren't the only ones who get something out of flexibility in work schedules. Companies do, too, when it comes to ROI.





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Does It WORK In IT?

Companies that promote a healthy work/life balance generally have corporatewide policies and guidelines that allow individual employees and their managers to set up flexible work arrangements.

That doesn't mean that all IT pros are suitable for every flexible arrangement, however, says Mary Finlay, deputy CIO at Partners HealthCare System. For example, she says, employees whose duties include heavy broken PCs and other hardware can't telecommute.

Some production-support positions can't be done part time or from home, adds senior project specialist Lisa Adragna, and some technical support positions tend to patient-care systems need to follow core business hours because of their critical nature, which means those staffers can't work nontraditional hours.

The same is true at American Century Investments. "Some people have to physically be here," says Keith Little, a network engineering advisor. He points to the center operators' group at the company as an example. "They have to be here because they're swapping out tapes or disk drives."

Some companies are more restrictive. In June, Hewlett-Packard Co. brought back into the office some IT employees who had been working from home. An HP spokesperson told Computerworld at the time that the move was to "facilitate face-to-face interaction and increase live effectiveness."

On the other hand, some IT shops are finding that positions long presumed to be off-the-office can be done remotely, part time or during nontraditional hours. "Today there's not a whole lot I can't do from home," Little says. That includes dealing with a crisis such as a network crash. In fact, better that kind of problem from home can be fixing the problem than doing it at the traditional way.

Little and others in network services are equipped with laptops and have broadband access at home (an expense the company picks up). So if there's a network problem at 2 a.m., not only can they usually fix it from home, but they can also do it with significantly less downtime than would be required if they had to commute to the office.

MARY R. PRATT

Continued from page 30

that says it's a pain point for tangible returns from good retention rates is no more complex disaster recovery plans. They say the bottom line is this: If you're an employee's employer, a company gets a lot more committed workers if it can help keep it up and running, even during natural or human-made catastrophes. And that has a real dollar value.

Good Business

Study after study shows that it's very tough to get effective and very good business to provide flexibility to your employees," says Barbara Winkoff, a national director of workplace solutions at KPMG LLP, an audit, tax and legal advisory firm in New York. "Employee morale, employee productivity, retention, historical knowledge—all of those things improve when people feel they have more control over when, where and how they work."

Winkoff says KPMG workers opt for flexible schedules—in which they work nontraditional hours—or a compressed work week, putting in their 40 hours in fewer than five days. They can telecommute from home or a KPMG facility that's more convenient than their assigned office. Or they can cut back on certain duties and work fewer hours.

Like many companies, KPMG has not calculated a return on investment for these programs, but Winkoff says there's no doubt that the firm benefits. She cites Natalia Jean Penhinski, an associate director in IT. Penhinski has worked at KPMG for five years and in IT for nearly 30 years, holding post positions ranging from programmer to vice president of information systems.

Penhinski is a valued employee, so her boss is not too happy, either this year when she decided that she was thinking of quitting. Penhinski, who works in the Mounts, N.J., office, was getting married and would not be on time. She let her boss that the office on one day, committed would be working. Her boss asked if they could work something out.

So Penhinski now works from home three days a week and commutes to the office on the other two. She says she probably would have quit if she hadn't been able to have this balance. "If I had kept my job," Winkoff says, "the company would have paid for it. Based on standard firm in resources in history numbers, she figures that it costs 150% of an employee's salary just to find a replacement. That includes the costs of advertising the position and training the new hire, as well as the time and money spent reviewing candidates. It doesn't include the new person's salary.

There are also intangible costs associated with losing someone who has an understanding of the business that comes only with time. Winkoff adds that Laura Biondo, a corporate division analyst at business consultancy Watson Wyatt Worldwide, commensurate typical costs of turnover per employee without ever realizing you have lost productivity and intellectual property can run one to five times employee salary," she says.

Improved retention and the associated savings aren't the only benefits of flexible work arrangements, says Janice Bartkowski, who supports IT as director of human resources at American Century Investments in Kansas City, Mo. At her company, IT staffers can work condensed weeks of either 80 hours in nine days or 40 hours in four days or

it's more efficient for me to stay at home than to come in where there's a constant stream of interruptions," he says.

Highly Committed

Studies confirm that companies with on-site life programs, which can include on-site fitness centers, help with child care or paid time for community-based volunteer opportunities, provide an advantage, Biondo says.

Last year, Watson Wyatt publishes a report called "The Strategic Rewards Study," which examines U.S. organizations with 1,000 employees or more. This year, it looked at top performers in 26 companies, which workers who exceeded or far exceeded managers' expectations during their most recent review periods. It found that of those who reported having work/life balance, 45% considered themselves highly committed employees. Of top performers who did not have work/life balance, only 25% described themselves as highly committed.

Finlay can attest to that. She says work/life options create a very satisfied, hard-working group of employees. "I know, and I've had to test this multiple times. When I need people to rally, I've never had a challenge. They're ready, and willing to go."

Lisa Adragna has worked at Partners HealthCare for 25 of the 27 years she has been out of college. She started as a full-time programmer and progressed through various positions and schedules as she gained experience and expanded her family.

Adragna worked part time, shared a job with another mother, went back to full time when she was promoted to corporate IT manager, and then cut back her hours to work as a part-time senior project specialist after the birth of her third child in 2000. Adragna started working full time again in 2003, although she works from home one or two days a week.

With a solid knowledge of functional groups and institutions under the corporate umbrella, and lots of experience with the older systems at the various hospitals, Adragna is clearly a valuable asset to Partners.

But she says she's particularly committed to being a stand-alone employee because of the accommodations she has had over the years. "I feel like I want to prove myself even more because they've given me this flexibility," Adragna says. "I want to prove to them that this really works."

Pratt is a computer-aided contributing writer in Wallingford, Miss. Contact her at mpratt@mcg.com.

PRICELESS

Here's what L331 score means: priceless worldwide think about work/life balance:

Let this result in a great employer that has a great work/life balance.

Let this result in a great employer that has a great work/life balance.

Let this result in a great employer that has a great work/life balance.

nontraditional hours. They can also work part time, share jobs or telecommute.

The benefit of such flexibility is a paid-once-over. The IT manager who has a team, for example, works 7 a.m. to 5:30 p.m. so he still has time to visit to shops at home after work. Others work later shifts.

Bartkowski says flexible arrangements help the company plan better for disaster recovery, a hot button issue this year because of the danger of an avian flu pandemic.

"With people telecommuting, if you have a situation at your building, you have people who can still keep work moving," she says. "Because of our time resources, there, the ability to have people working from home becomes more of a business need."

Another benefit is more used productivity. Keith Little, a network engineering adviser at American Century, says he telecommutes six days a week. He has produced what he says is double productivity. "I have a bunch of documentation to do,

Does It WORK In IT?

Companies that promote a healthy work/life balance generally have unperceivable problems and problems that other tech-based employees and their managers to not up flexible work arrangements.

That doesn't mean that all IT jobs are suitable for any flexible arrangement. However, says Larry Pater, deputy CIO at Partners HealthCare Systems. For example, she says, employees whose duties include being on-call PCs and other hardware can't telecommute.

Some production support positions can't be done part time or from home, with senior project specialist Lisa Adams. And some technical support positions that in patient-care systems need to follow care business hours because of their critical nature, which means those staffers can't work nontraditional hours.

The same is true of American Century Investments. "Some people have to play only by the rules," says Keith Little, a network engineering subject. He points to the computer operations group of his company as an example. "They have to be here because they're computing on tapes or disk drives."

Some companies are more restrictive. In June, Hewlett-Packard Co. brought back into the office some IT employees who had been working from home. An HP spokesman told Computerworld at the time that the move was to "facilitate face-to-face interaction and increase team effectiveness."

On the other hand, some IT shops are finding that problems long presumed to be unsolvable can be done remotely, part time or during nontraditional hours. "Today, there's not a whole lot I can't do from home," Little says. That includes dealing with a crisis such as a network crash. In fact, being that kind of problem from home can be better for the company than doing it in traditional ways.

Little and others in network services are equipped with laptops and have broadband access at home (see separate company article on p. 34). If there's a network problem at 2 a.m., not only can they usually fix it from home, but they can also do it with significantly less downtime than would be required if they had to commute to the office.

— MARY K. PRATT

Continued from page 30
but executives can point to tangible returns, from good retention rates to more complete disaster recovery plans. They say the bottom line is this: By giving employees flexibility, a company gets a better, more committed workforce that can help keep it up and running, even during natural or man-made catastrophes. And that has a real dollar value.

Good Business

"Study after study shows that it is extremely cost-effective and very good business to provide flexibility to your employees," says Barbara Wankoff, national director of workplace solutions at KPMG LLP, an audit, tax and business advisory firm in New York. "Employee morale, employee productivity, retention, historical knowledge—all of those things improve when people feel they have more control over when, where and how they work."

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Dembinski is a valued employee, so her boss wasn't too happy earlier this year when she heard that she was thinking of quitting. Dembinski, who works in the Montvale, N.J., office, was getting married and moving to Connecticut. She left her boss that the 64-mile one-way commute would be too taxing. Her boss asked if they could work something out.

So Dembinski now works from home three days a week and commutes to the office the other two. She says she probably would have quit if she hadn't been able to achieve that balance.

If that had happened, Wankoff says, the company would have paid for it. Based on standard human resources industry numbers, she figures that it costs 150% of an employee's salary just to find a replacement. That includes the costs of advertising the position and training the new hire, as well as the time managers spend reviewing candidates. It doesn't include the new person's salary.

There are also intangible costs associated with losing someone who has an understanding of the business that comes only with tenure, Wankoff adds.

Laurie Biemstock, a compensation analyst at business consultancy Watson Wyatt Worldwide, concurs. "The typical costs of turnover per employee—without even realizing you have lost productivity and intellectual property—can run one to two times employee salary," she says.

Improved retention and the associated savings aren't the only benefits of flexible work arrangements, says Janice Bartkowski, who supports IT as director of human resources at American Century Investments in Kansas City, Mo.

At her company, IT staffers can work condensed weeks (either 80 hours in nine days or 40 hours in four days) or

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Lisa Adams has worked at Partners HealthCare for 21 of the 22 years she has been out of college. She started as a full-time programmer and progressed through various positions and schedules as she gained experience and expanded her family.

Adams worked part time, shared a job with another mother, went back to full time when she was promoted to corporate IT manager, and then cut back her hours to work as a part-time senior project specialist after the birth of her third child in 2000. Adams started working full time again in 2003, although she works from home one or two days a week.

With a solid knowledge of functional groups and institutions under the corporate umbrella and lots of experience with the older systems at the various hospitals, Adams is clearly a valuable asset to Partners.

But she says they particularly committed to be a standout employee because of the accommodations she has had over the years. "I feel like I want to prove myself even more because they've given me this flexibility," Adams says. "I want to prove to them that this really works." *

Pratt is a Computerworld contributing writer in Waltham, Mass. Contact her at marykpratt@verizon.net.

PRICELESS

nontraditional hours. They can also work part time, share jobs or telecommute.

One benefit of such flexibility is expanded coverage. One IT manager who has a farm, for example, works 7 a.m. to 3:30 p.m. so he still has time to tend to things at home after work. Others work later shifts.

Bartkowski says flexible arrangements also help the company plan better for disaster recovery, a hot-button issue this year because of the danger of an avian flu pandemic.

"With people telecommuting, if you have a situation at your building, you have people who can still keep working," she says. "Because of avian-flu-type issues out there, the ability to have people working from home becomes more of a business need."

Another benefit is increased productivity. Keith Little, a network engineering adviser at American Century, says he telecommutes when he has projects that need his undivided attention. "If I have a bunch of documentation to do,

WE'VE ALL HEARD plenty of project team analogies. For me, the most fascinating one compares a project to a football game. Each has an objective, a team that needs to be coordinated and a deadline.

I've devised a little tool that extends the analogy further. Football coaches have long made use of playbooks to ensure accurate communication, visual sequencing and coordination among team members spread over a large area. I've found that a playbook can serve the same purpose for a virtual team working on a small project.

My playbook is based on the classic issue log. Instead of being an incongruent list of problems, however, it's a sequential list of tasks. It clearly shows everyone the order of the work, who is being called on and when.

By their nature, virtual teams work as a collection of free agents, and conference calls among team members have a tendency to become disembodied forums of multiple conversations, divided attention spans and mayhem. Given that most of my virtual teams are located across the country or around the world, I need a more focused means of getting results. The playbook is that mechanism.

The playbook gives me, as the project manager, a way to capture tasks, actions, issues and a RAM (responsibility assignment matrix) all in one spot. It gets team members thinking, "What's the next thing I can be doing, and can I do it sooner?" or, "What am I waiting on that I should communicate to everyone on the conference call?" You could call it a pseudo critical path for dummies.

Small Projects Only

I use a playbook primarily for the small things—projects of 120 hours or less—that are too granular to require a formal

Playbooks clearly show what needs to be delivered and who's going to deliver it. Says TOM L. BARNETT



A Small-Project PLAYBOOK

Here's a way to keep your far-flung IT team as focused as a football squad.
By Tom L. Barnett

project schedule. Within Microsoft Project, these are the things that typically might be scheduled as two- or three-line items, better classified as microprojects or complex to-do's. For example, within a project schedule, I would expect to see a line item for the task "build/configure Web server." Coordinating that task is something I would probably want to manage with a playbook.

My playbook has eight columns: Task Name, Description, Due Date, Owner, Issues, Deliverables, To, and Waiting On.

On the surface, it looks fairly straightforward. The real power of the playbook, though, is in defining the deliverable (output) from a task and the

person or persons to whom it has to be delivered. (For example, the network team registers a server on the network. The deliverable is the network address, which the sysadmin team needs in order to access the server.)

If a team member isn't able to complete his task by the date or time required, he indicates what is holding him up in the Waiting On column (e.g., "password to the database server" or "confirmation of Web server reboot"). This lets everyone on the team know what the problem is and highlights and applies pressure on the person who needs to complete the action to get things moving again.

IT MENTOR

The biggest hurdle in virtual teams is getting geographically distributed team members to think and act as if they were all in the same room looking at the same whiteboard. The playbook is particularly good for coordinating many people, each of whom has just a task or two to do as part of the overall effort.

In a simple format, it combines the agenda for the group teleconference calls, the project plan (task list, resource matrix (role assignments) and status report. If there's an issue, it's listed right in the playbook, next to the task that triggered it.

Although the playbook isn't for large projects, it's effective for managing the small stuff for which a project schedule and other formalities are too cumbersome. It allows me to be organized and nimble in firefighting efforts.

For example, when working with the infrastructure team, the application team and an outside vendor to troubleshoot a system's availability problems, we used a playbook to sequence the steps that each team would perform and noted each step's effect on each other area. Playbooks have also led my team through software upgrades and virus outbreaks, and I have required that they be used for implementing all small to medium-size change requests.

Once you've designed a few playbooks for various types of tasks, you'll find that many are virtual templates that can be reused with minor adjustments.

Communication is the single most important factor in leading a football team or an IT team. That's why many a coach has gone to great lengths to protect his playbook. Once you've built a few of your own, you'll understand why. ▀

Barnett is a program director for a large IT services company where he focuses on IT program management for clients. Contact him at tom.barnett@earthlink.net.

Setup

1.0	Install build all rack components	(1) Install racks; (2) Validate wiring compliance; (3) Install grounding bars	12-Aug-01	York	Server rooming with existing in alignment	DC floor approval, data center power-up approval	Task	Replacement to be completed
2.0	Rack all servers	(1) There are six servers to rack; (2) Include rack-mounted UPS; (3) Validate infrastructure cabling compliance	13-Aug-01	York		Rack location addresses, server space	William	
3.0	Build a target server	Notes: We can even place a desktop in place to facilitate the network configuration.	15-Aug-01	Williams	Out of space, network switch, need more	Server connection info	Stiles	
4.0	Establish network connectivity	(1) Establish subnet; (2) IP the servers; (3) All required port and interface between servers opened; (4) Are LDAP/AD active?	16-Aug-01	Stiles		Connectivity info, drive partition, requirements (Barnett)	Paul	
5.0	Hardware configuration	(1) Hardware installed; (2) Initial BIOS POST; (3) Exit devices installed; (4) Logical drives created		Paul				
6.0	Network interface build	(1) Define IPs for DRAC or PDR; (2) Connect ports to the switch; (3) WINS and DNS		Hannabren				

[MANAGERS' FORUM]



Q How can I tell if my group has a morale problem? This is one of those things that you should just be able to sense. If you think that your people might have a morale problem, they probably do.

That said, not everyone is naturally gifted at reading other people's emotions. So here are a few ideas. You've probably got a morale problem if your people:

- Arrive at work later and leave earlier than others in the organization.
- Are disappearing at unusual hours of the day for "personal business" wearing unusually nice clothing.
- Rarely ask you questions.
- Don't make suggestions.
- Are afraid of you.
- Don't trust you.
- Think you're a hypocrite.
- Don't feel challenged by their work.
- Feel trapped in their current jobs.
- Have no sense of where the organization is going.
- Don't understand how to make progress in their careers.
- Don't feel that you appreciate their efforts.

- Think that you won't be pleased no matter how hard they work.
- Are afraid of layoffs.

- Are afraid of outsourcing.
- Are afraid that the organization may fail and that they will be out of a job.
- Morale also may be low if you:
- Feel that your people are constantly letting you down.
- Don't trust your people's motives and/or abilities.
- Feel that the rules you make for others don't apply to you.

But if you plan a company picnic or some other morale-building activity and nobody wants to participate, your people are probably completely normal.

Q What is the best approach to float an idea upward that you know is going to take total ownership from the senior management team to execute? I suspect that there is no one right way. But there is one key principle: Know your audience.

You've got to know what sort of persuasive ideas best on your senior managers, collectively and individually. The Kipnis-Schmidt Profiles of Organizational Influence Strategies describe seven ways people in organizations try to influence one another. **Reasoning.** Getting others on board by using rational arguments. Assumptions and logic guide others to your point of view.

Friendliness. Getting others to support you because they like you rather than because they agree with your point of view. Here, your point of view becomes popular because others feel positively predisposed toward you.

Coalitioning. Getting others in the organization to support your point of view. The more people who support

your perspective, the easier it is to get even more people to go along.

Bargaining. Trading value and negotiating for what you want. If you give someone else what they want, they agree to give you what you want.

Assertiveness. Getting others to go along with you by the force of your demands. It doesn't matter if they agree with you or not, as long as they comply.

Appeal to higher authority. Getting a higher authority to support your position. Once your position is adopted by the boss, it's much easier for you to get things going or for the boss to do the influencing on your behalf.

Sanctions. Using rewards and punishments to get others on board. If you have the ability to impose sanctions, you can get others to comply based on the coercive power of your incentives (positive and negative).

So the question is, which of these will work best when floating an idea up to senior management?

First, we need to recognize our personal biases with respect to the strategies we choose. In general, as geeks, we like reason. Logic rules! We see other approaches as just ugly politics.

Unfortunately, this attitude often doesn't serve us well. If you really believe that something is a great idea for the organization and you need to get the support of senior management, it's worth considering some of the other influence strategies.

If you are going to use the reason approach (the most common), I'd suggest a two-step strategy.

First, spend some time getting the important players on the same page about the nature of the problem. Only after you've achieved that should you work on getting them to support the solution. Too often, I see managers trying to jump directly to the solution when there is no consensus on the problem. Not only does this not get you the support you need, but it often can diminish your stature in the eyes of your superiors.

Given that you are trying to float an idea upward, some of these strategies will probably prove less effective than others. Consider friendliness, coalition-building and bargaining as your primary political avenues.

While this may seem crass, it's how things get done. Politics need not be ugly. I define organizational politics as the process of a group making decisions. That's it.

You can use these tools for good or ill. I'd suggest that learning to use the nonreason approaches effectively can position you to be a significant force for good in the organization. ■

READERS TALK BACK

There are two things that did not make it to your readers' list, and these are relationships and business focus. In my career as a CIO, these two things have been key. Neither came easily to me as a "geek," but because of them I led a couple of profitable teams. First, at my last CIO job, I was given a seat on the executive committee. (A number of "operational" officers were not on that committee.) Next, I emphasized in my IT staff that they were business men and women first, with geeks as a secondary goal, support the enterprise. Those who took that to heart experienced a great deal of respect and were brought into a number of broader company initiatives as equal participants with those "operational" execs.

Although I had no agenda in mind when I started on these two simple yet, then complex and success, first came home to me a few years ago when I was making a presentation at an industry conference. I had been introduced as retiring my sixth year as CIO of my company. After my presentation, there was the usual hour-and-a-half social period. The first question I was asked was how I could last six years as CIO when the industry average, at the time, was less than two years. I had never really thought about that, but the best thing that came to mind was the word relationships. That was sort of an epiphany for me.

Another point of the value of the employees I was making was when my company was later acquired by a larger company. All of my key people who wanted to stay were offered good positions, and most are still there. Some have advanced, and a few have even advanced into non-IT management positions. I think the focus on the business, as well as on building new relationships, was a key to our success.

So, I would add to the list of remedies an emphasis on building relationships and focusing on the business as key steps for success. IT is not the end. PW

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www.causussummit.com

CIO Summit

Dec. 10-12, Carlsbad, Calif.
Sponsor: Gartner Inc.

Gartner's CIO Summit includes topics such as "Wifemomics"—how smart companies create value in the age of mass collaboration, the business implications of a massively networked society, a new view of the CIO, mobile technology challenges, measuring your agility quotient, business process management and service-oriented architectures, and determining whether CIOs are embracing according to plan. www.gartner.com

IT Governance

Jan. 22-24, Coconut Grove, Fla.
Sponsor: International Quality and Productivity Center

The IT Governance Summit '07 Developing Strategies to Solidify Your Organization's Framework includes presentations on the real total cost of ownership of technology, assessing internal processes prior to establishing business application needs, understanding governance in IT shared services and outsourcing, achieving balance between infrastructure and application investment, and establishing measurable return-on-investment goals. www.iqpc.com

Manufacturing

Feb. 12-15, Orlando
Sponsor: ARC Advisory Group Inc.

Collaborative Manufacturing Strategy: Driving Performance in the Flat World includes presentations on benchmarking for continuous improvement, best practices for managing change, meeting government regulations, implementing statewide wireless networks, emerging practices in packaging machinery, and machine innovations driving production processes. www.arcweb.com

PAUL INGEVALDSON

IT, We Have A Problem!

RECENTLY, I was asked to be a substitute instructor for two sessions of a class in the professional MBA program at a local university. The class is called "Management of Information Systems Technology" and is mandatory to receive the degree. I was really excited about the opportunity. Here was my chance to explain to business students how to interface effectively with IT. At the very least, I thought, these grad students would better understand the IT world.

In my first class, I asked the students what they thought of their IT departments. Only one of the students was an IT practitioner. What I got back from the rest were the usual stereotypes that have existed for as

long as I've been in the field: I didn't understand the business; projects take too long; systems never do what we want them to do; projects are never completed on time; I can't understand them; yadda, yadda, yadda.

Now I was really excited. What an opportunity! So I jumped right in. I talked about the role of the steering committee. I talked about the need for the users to spend time to define the system requirements. I discussed scope creep and the desire for IT to satisfy the users. I cited the November 2002 Harvard Business Review article by Jeanne Ross and Peter Weill titled "Six IT Decisions Your IT People Shouldn't Make." I talked at length about the need for the user department to develop the ROI for a project, since the savings will come from the use of the system. I explained the project development life cycle and how the users need to participate if the project is to be successful. I explained



the need for change orders when significant alterations to the specs are required. At least these people would understand how to ensure IT project success.

My second session as a substitute coincided with the last meeting of the class. My topic was IT governance. I was pumped. We had had a lot of discussion about the need for collaboration between IT and the users, and I felt I had gotten through to them. So at the end of the class,

I asked, "How was your image of IT changed after 32 hours of class time?" I could hardly wait to hear those little nuggets of understanding.

But my hopes were quickly dashed. With the exception of one student, who indicated that he better understood what the users' roles should be, the remainder of the students said that their image of IT had not changed at all. One student remarked that he still didn't understand why IT isn't completely responsible for a project just

like he is for projects in his department. I reminded him of the main reason, which I had used in my PowerPoint presentation on governance: An IT system does not belong to IT. An IT system belongs to the user department.

But it was to no avail. Most of the students had not understood how IT differs from other departments and were still comfortable in their stereotypes. Perhaps the comments became slanted once the first student took the no-change position and the rest followed. Or perhaps they did get a subconscious understanding that will emerge once they are back in the office environment.

Nevertheless, it was a sobering experience. If this group can be used as a valid measure, our image and reputation have not changed much over the years. These students all had undergraduate business degrees and at least five years of business experience. Imagine how non-business-schooled people might feel about IT.

I think we should take this experience seriously. CIOs should develop a much stronger program to explain the arcane aspects of IT and do so on a continuing basis. Perhaps we need to embed IT staffers in user departments or maybe vice versa. Perhaps we need to better market the successes of IT. Maybe we need formal relationship-building exercises, or perhaps we need to try all of the above.

Whatever the solution, it's clear to me that what we have been doing is not working. Someone said that the definition of insanity is doing the same thing over and over again and expecting different results. We can no longer ignore this problem and let it fester throughout the user community. It's time to address it proactively and improve the reputation and effectiveness of our IT departments. ■

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